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ABSTRACT

The interaction between plausible combinations of levels of expenditures and revenues of the postsecondary sector, 1975 - 1990, are examined in the main body of this report. The conclusions to be drawn from simulations may be summarized as follows: (1) Throughout the 1970's, incomes and expenses will be in balance in the entire postsecondary sector, on condition that private institutions continue to raise tuitions. (2) In the 1980's, a possible reluctance of legislators to provide sufficient money for the public sector will cause its tuition and fees to grow faster than those of the private sector; (3) The growth of endowment and gift income among private institutions will allow them to moderate the growth of tuition during the 1980's, and will make it possible for them to keep their share of students. Appendixes include statistical data. (MJM)

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THE FINANCIAL PROSPECTS OF THE POST-SECONDARY SECTOR, 1975 TO 1990

by

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SUMMARY AND CONCLUSIONS

The financial difficulties of the post-secondary sector which became apparent towards the end of the 1960's became even more serious in the early 1970's. At the end of a ten-year cycle of expansion in enrollment, when the number of students increased by some eight per cent per year, the system appeared to have run out of steam to power its engine.

Between 1959-60 and 1969-70, the proportion of the population involved in post-secondary education more than doubled, expenses associated with instruction as a per cent of GNP increased by 175 per cent, state and local appropriations as a per cent of GNP increased by 250 per cent, and the bite of tuition and fees as a proportion of personal income doubled (see Table A).

TABLE A

INDEXES OF GROWTH OF THE POST-SECONDARY SECTOR

	Fall Enrollments (Per Cent of U. S. Population)	Total Expenditures for Instruction (Per Cent of GNP)	State & Local Appropriations (Per Cent of GNP)	Tuition & Fees (Per Cent of Personal Income)
1959-60	1.8	0.8	0.3	0.3
1965-66	1.3	1.3	0.4	0.5
1969-70	4.0	1.4	0.7	0.6

The financial stringency which affected all education during the past few years can be ascribed to a variety of causes. On the public side, the lower levels of economic activity put a strain on state and local resources as revenues fell short of what they might have been in a full-employment economy; and expenditures, especially those for social welfare, escalated faster than in the past. Increased support for higher education thus became a residual claimant, and could not muster the necessary political support in many state legislatures, especially after the rash of student riots on campuses. The enthusiasm of state legislatures for higher education support

became inversely proportional to the length of students' hair. Furthermore, many state reimbursement formulas were based on a per-student basis, and thus relatively short-changed those universities and four-year colleges which expanded graduate and professional programs. By contrast, schools with lower outlays per student, e.g., junior colleges, fared better even in a period of tight money.

The more modest growth of enrollments in the private sector was sufficiently large to strain the limited resources, especially in the course of the past few years when private post-secondary institutions had to compete with the public sector. As the availability of public places increased, the amount of resources from endowments and gifts used to subsidize students in the private sector became crucial. Despite the fact that endowment and gift income throughout the 1960's increased as fast as the GNP, it had to be spread over an increasing number of students. In actual fact, the subsidy per FTE student in constant prices remained fairly stable during the past five years. Thus, the gap between public and private tuitions widened.

The strain on the finances of post-secondary institutions in both the public and private sectors was further aggravated by the relative decline in the role of research and development income and income from ancillary activities. The decline of these sources of funds was probably the coup de grace which destroyed the hairline balance between outlay and income for some types of post-secondary institutions.

The three years ending 1969-70, the last year for which financial data for the whole post-secondary sector is available, as well as the two years which followed, were certainly years of tight money. These conclusions are evident from the trend in instructional salaries, which increased very little, if at all, in real terms during the past five years. In a sense, the precarious balance in post-secondary budgets was made possible at the expense of earnings of the professional staff.

A policy of wage restraint, or to be more blunt, depressing real wages, could not have been instituted a few years ago when the demand for faculty was brisk. Since then, the lower levels of research and development outlays and the slower rate of growth in enrollments have accentuated an already serious employment problem for young Ph.D.'s. The plethora of applicants for academic jobs is likely to continue in the future.

The real imponderable is the extent to which the surplus of highly trained manpower is likely to spill over to persons with both bachelor's and master's degrees. Some preliminary studies conducted by our group indicate that a slackening of demand for all persons with college degrees is likely. By 1980, it is quite possible that

some five to ten per cent of college graduates may have to fill jobs which, up to now, were manned by persons with less education.

If this imbalance between supply and demand of college graduates occurs, the wages of persons with post-secondary degrees will be depressed relative to the rest of the labor force. It isn't clear whether this decline in relative wages will affect enrollments in the post-secondary sector. Higher propensities to enroll could be moderated or even reversed. Given these uncertainties, for this study we have adopted three different projections of possible enrollments for the period 1975 to 1990. The high enrollment projection was borrowed from the work of the Carnegie Commission on Higher Education; the median enrollment projection was based on a model developed by this writer at the U. S. Office of Education some years ago; and the low projection sets enrollments at ninety per cent of the median estimates.

All three enrollment projections agree that there will be virtual stability in enrollments in the 1980's. The highest, and in our opinion somewhat optimistic, projection predicts that 5.8 per cent of the total population will be involved in post-secondary education in 1980, and 5.2 per cent in 1990. It implies an increase of some 40 per cent over the 1970 participation rate by 1980, followed by a decline. The low projection anticipates a peaking of participation rates at 4.7 per cent in 1980, i.e., some 10 per cent above present levels, and a decline to present levels by 1990 (see Table B). In all cases, the rate of increase is less than that of the 1960's.

TABLE B

TOTAL ENROLLMENTS AND ENROLLMENTS AS PER CENT OF POPULATION
FALL 1970, 1975, 1980, 1985, AND 1990

	Students (Millions)	Per Cent of Population
1970	8.6	4.2
1975	9.7 - 11.4	4.5 - 5.3
1980	10.6 - 13.2	4.7 - 5.8
1985	10.8 - 13.0	4.5 - 5.4
1990	10.6 - 13.0	4.2 - 5.2

Since expenditures in post-secondary institutions depend a great deal upon total enrollments, we estimated a range of total outlays required to educate the three projected levels of students. These costs will depend upon the mix of students between public and private institutions (since it costs roughly twenty per cent more to provide a year of instruction to a student in a private institution than in a publicly controlled school); the mix of students by type of school within each sector; and also the level of instruction - lower level or upper level undergraduate, professional, or graduate work. To a lesser extent, the expenditures also depend upon the course of study opted for by students. We estimated that a shift away from natural science to social science and the humanities could result in savings of roughly five per cent for the post-secondary sector.

On the whole, though, the level of outlays will be determined by the future level of instructional wages. Since professional wages account for 50 to 60 per cent of the total outlays for the post-secondary sector, assumptions about their future levels drastically affect all projections of expenditures. In this study, we projected three alternative levels of professional wages by rank; (1) the slow-growth rate of the past five years, referred to as the low-cost assumption; (2) the past ten years' trend, which is somewhat above the low-cost assumption, and is our median estimate; and (3) an increase at the same rate as per capita disposable income which produces the high-cost assumption.

An additional assumption was made about the effect on average wages of the change in mix of faculty by rank. There is little doubt that the slower growth of enrollments throughout the 1970's and their virtual stability in the 1980's will affect the mix by rank in the post-secondary sector. If an orderly promotion and retirement pattern, not unlike the one during the past ten years, is followed, the increased seniority of the faculty will serve to raise the average level of wages some 20 per cent by 1990.

The professional wage bill for the post-secondary sector was calculated by taking into account increases in salaries by rank and the change in the rank mix. Even then, mean professional salaries under the low and median projections lag behind the increase in per capita disposable income. We believe that these assumptions are realistic because the increased competitiveness in the academic market will continue. The outlays for all instruction-related expenditures, which include not only professional wages but also other expenses such as libraries, etc., will probably increase at the same rate between 1970 and 1975 as they did between 1965 and 1970, i.e., some eight per cent a year. Beyond 1975, if costs grow at the median rates, instruction-related expenditures will increase by five to six per cent a year for the period through 1985, and some two to three per cent for the five years 1985 to 1990 (see Table C).

TABLE C

INSTRUCTION-RELATED OUTLAYS - MEDIAN ENROLLMENT, MEDIAN COST

	Total (Billions of 1967-68 Dollars)	Per Cent of GNP		Annual Rate of Increase for Past Five Years
		High	Low	
1969	11.5	1.3		7.9
1975	17.4	1.6	1.7	7.2
1980	21.4	1.6	1.7	4.2
1985	25.8	1.6	1.8	3.8
1990	28.7	1.5	1.7	2.2

The projections of the possible level of revenue consist of separate projections of government appropriations, tuition and fees, endowments and gifts, and other miscellaneous income. Federal appropriations were assumed to stay at their present levels. By contrast, three separate projections of state and local government appropriations were prepared: it was assumed that (a) state and local contributions to higher education would grow in line with past trends, and amount to successively higher proportions of personal income; or (b) state and local funds would vary as a function of projected levels of personal income and the number of students enrolled; or (c) state and local authorities would continue allocating to higher education the same percentage of personal income in the future as they did in 1969-70.

We assumed that state and local appropriations will be distributed between public and private institutions in the same proportion as they have been to date, i.e., 94 per cent, the lion's share, going to the public institutions. The second projection, (b), is the one most likely to approximate future allocations of state and local public funds to post-secondary institutions, since the enthusiasm of state legislatures will be influenced both by the over-all affluence of the economy and the number of potential voters attending post-secondary institutions.

Two separate projections were prepared for future levels of tuition and fees. One is tied to past levels of tuition and disposable income, while the other projects the trend in tuition growth from 1965-66 to 1969-70. The projected levels of tuition are fairly close to each other in the private sector. In the public sector, tuition is

higher when projected on the basis of past trends than when tied to disposable income.

Finally, endowment and gift income was projected in relation to increases in the gross national product. Strangely enough, this relationship has held fairly closely in the past ten years.

The sum of all these revenue items and a small addition for other revenue (calculated as a percentage of the three revenue sources described above) made it possible to project the expected revenues of post-secondary institutions for the period 1975-1990.

A comparison of the possible levels of revenue and expenditures produced a series of findings which are counter-intuitive. Under most conceivable sets of circumstances, the crisis facing the post-secondary sector is likely to be attenuated in the next year or two. The specter of unbalanced budgets will not stalk the halls of post-secondary institutions for the remainder of the 1970's unless the salaries and wages of instructional staff start growing at a rate much higher than the one experienced during the 1960's. In the longer run, i.e., through the 1980's, the outlays and revenues of the post-secondary sector could also be balanced, on condition that salaries grow at either the low or median rate and tuition rates in public institutions increase in line with past trends, i.e., somewhat faster than disposable income. Our projections indicate that this balance could be achieved with government appropriations and tuition rates claiming roughly the same portion of GNP and personal income as they did in 1969-70.

If the revenues of private institutions follow past trends, surpluses rather than deficits may be the order of the day as long as enrollments in that sector are stable. According to our analysis, it is more likely that the budgets of private schools will be balanced, however, since increases in tuition and fees will be kept below the levels indicated by past trends. In order to remain competitive, it is quite likely that the private sector will have to moderate the rate of growth of tuition. Even with lower tuition throughout the 1980's, it will probably continue having trouble attracting a sufficient number of students to fill vacant spaces.

In the main body of the study and in the appendixes, we show the interaction between plausible combinations of levels of expenditures and revenues. The conclusions to be drawn from these simulations may be summarized as follows:

- Throughout the 1970's, incomes and expenses will be in balance in the entire post-secondary sector, on condition that private institutions continue to raise tuitions.

- In the 1980's, a possible reluctance of legislators to provide sufficient money for the public sector will cause its tuition and fees to grow faster than those of the private sector.

- The growth of endowment and gift income among private institutions will allow them to moderate the growth of tuition during the 1980's, and will make it possible for them to keep their share of students.

The federal government will not contribute to maintaining the pluralistic character of the post-secondary sector by making grants to institutions on the basis of enrollment. On the contrary, the present legislation will probably serve to keep tuition down in both sectors, while favoring the public sector. Hence the struggle of private institutions to maintain stable levels of enrollments will be exacerbated. Since tuition and fees in the private sector will have to grow at a rather fast clip throughout the 1970's, increasing reliance will have to be placed on student-aid policy to keep the private sector viable. It may be worthwhile to re-think the existing policy of basic grants to students. The private sector would be helped if basic grants varied in some proportion to expenses actually incurred, and if students were offered the choice of borrowing the same percentage of their total expenses to attend either a public or a private institution.

In the 1980's, at the very time when some penury of public funds may manifest itself, the necessity of subsidizing private institutions will disappear. In these circumstances, per capita grants will not serve a constructive purpose either, and again considerable attention will have to be paid to student aid programs.

The projections presented in the body of this study and their numerous combinations and permutations will permit analysts to build alternative futures of the financial state of post-secondary education. Since we do not claim to be gifted with 20-20 foresight, we believe that a building-block approach is most useful for potential policy planners. We also believe very strongly that a word of caution about the use of the projections must be included. These projections are based on aggregative data, unfortunately of indifferent quality. Although great care has been taken to prepare consistent series, it may be well to test the reasonableness of the projections through a number of case studies of the finances of one or two state systems and a dozen private schools. Such case studies could breathe life into otherwise arid statistical simulations.

TABLE OF CONTENTS

	Page
SUMMARY AND CONCLUSIONS	ii
LIST OF TABLES	
INTRODUCTION	1
ENROLLMENTS AND TYPES OF STUDENTS IN THE 1960'S	5
RECAPITULATION OF CURRENT EXPENDITURES AND REVENUES	9
Expenditures	9
Revenues	11
Expenditures and Revenues for Instruction	13
Total Expenditures for Instruction	15
Total Revenues for Instruction	20
Expenditures per Full-Time Equivalent Student	21
Revenues per Full-Time Equivalent Student	21
Standard Undergraduate Student Costs	22
The Concept of Standard Undergraduate Student	23
Deflation of Instructional Outlays	24
Average Costs per Standard Undergraduate Student	27
THE METHODOLOGY OF LOOKING AT THE FUTURE	32
Total Students	32
Full-Time Equivalent Students	34
Standard Undergraduate Students	36
Students by Control and Type of Institution	36
Future Costs of Instruction and Departmental Research	49
Wage Developments	49
Calculations of Total Instruction and Departmental Research Costs	53
Other Costs Related to Instruction	59
Administration	59
Libraries	59

TABLE OF CONTENTS (Cont'd)

	Page
THE METHODOLOGY OF LOOKING AT THE FUTURE (Cont'd)	
Other Costs Related to Instruction (Cont'd)	
Non-Governmental Student Aid	61
Other Outlays	62
Plant Operation and Maintenance	62
Total Outlays Associated with Instruction	63
REVENUES	70
Tuition and Fee Income	70
Government Appropriations	76
Endowment and Gifts Income	82
Other Income	83
Total Revenues by Sector	83
CONCLUSIONS TO BE DRAWN FROM SIMULATIONS	86
Projections for 1975 and 1980	86
Some Policy Implications for the 1970's	106
The Situation in the 1980's	107
Alternative Outcomes of the Future of Post-Secondary Finances	108
Probable Trends in the 1980's	111
Some Policy Implications for the 1980's	111
CONCLUDING COMMENTS	113
FOOTNOTES	115
APPENDIXES	

LIST OF TABLES

Table		Page
1	Distribution of Total Enrollment in Post-Secondary Institutions by Level of Instruction, Control, and Type of Institution, Fall 1966 and 1970	7
2	Expenditures by Type in Post-Secondary Institutions, Peak and Trough Years, for the Period 1959-60 to 1969-70	12
3	Revenues by Source in Post-Secondary Institutions, Peak and Trough Years, for the Period 1959-60 to 1969-70	14
4	Total Revenues, Expenditures, Surplus or Deficit for Instruction in Post-Secondary Institutions by Control and Type of Institution, 1965-66 to 1969-70	17
5	Indexes of Differences in Cost of Instruction by Level of Student	25
6	Weighting of Full-Time Undergraduate Students by Control and Type of Institution	26
7	Cost of Administration and Instruction and Departmental Research per Standard Undergraduate Student, 1966-67 and 1969-70, by Control and Type of Institution	28
8	Total Students Enrolled in All Post-Secondary Institutions, Fall 1975, 1980, 1985, and 1990, by Level of Instruction for High, Median, and Low Projections	35
9	Ratio of Full-Time Equivalent Students to Total Students by Level of Instruction, Control, and Type of Institution	37
10	Distribution of Full-Time Equivalent Resident Graduate Students by Control and Type of Institution, Actual Fall 1970, Projected 1975, 1980, 1985, and 1990	39

LIST OF TABLES (Cont'd)

Table		Page
11	A. Relation of Total and FTE First Professional Students to Resident Graduate Students, Actual Fall 1970 and Projected Fall 1975, 1980, 1985, and 1990	40
	B. Distribution of First Professional Students by Control and Type of Institution, Actual Fall 1970, and Projected 1975, 1980, 1985, and 1990 (Median Projection)	41
12	Projected Distribution of Pre-Baccalaureate and Non-Degree Students, Total and FTE, by Control and Type of Institution	42
13	Total Students for Three Enrollment Projections by Control and Type of Institution for Fall 1975, 1980, 1985, and 1990	43
14	Total Full-Time Equivalent Students for Three Enrollment Projections by Control and Type of Institution for Fall 1975, 1980, 1985, and 1990	45
15	Total Standard Undergraduate Students (SUS) for Three Enrollment Projections by Control and Type of Institution for Fall 1975, 1980, 1985, and 1990	47
16	Professional Salaries, Actual 1969-70, and Selected Projections for 1975-76, 1980-81, 1985-86, and 1990-91	51
17	Professional Salaries, with Seniority Factor, as Per Cent of Per Capita Personal Income	54
18	Cost Indexes of Instruction and Departmental Research	55
19	Estimated Savings from Shift in Proportion of Undergraduate Degrees in Science and Proportion of all Graduate Students in Ph.D. Programs	57
20	Other Costs Related to Instruction as a Per Cent of Instruction and Departmental Research Costs by Control and Type of Institution	60

LIST OF TABLES (Cont'd)

Table		Page
21	A. Operation and Maintenance Costs per Full-Time Equivalent Student in Post-Secondary Sector by Control and Type of Institution, Actual 1966-67, 1969-70, and Projected to 1975-76 to 1990-91	64
	B. Projected Total Outlays for Operation and Maintenance in Post-Secondary Institutions by Control and Type of Institution, 1975-76 to 1990-91	65
22	Projected Total Current Expenditures for Instruction in Post-Secondary Institutions, Current and Lower Proportions of Science Degrees and All Ph.D. Production, by Control of Institution, 1975-76, 1980-81, 1985-86, and 1990-91	67
23	Possible Levels of Tuition and Fees Revenues under Alternative Assumptions About the Relation of Tuition to Disposable Income	71
24	Tuition and Fees Revenue per Full-Time Equivalent Student as Per Cent of Per Capita Disposable Income, by Control and Type of Institution, 1965-66 to 1969-70	74
25	Projected Tuition and Fees per Full-Time Equivalent Student as Constant Per Cent of Disposable Income and Under Continued Growth as in 1965-66 and 1969-70, by Control of Institution	75
26	Projected Tuition and Fees Income as Constant Per Cent of Disposable Income and Continued Growth as in 1965-66 to 1969-70, by Control of Institution	77
27	State and Local Government Appropriations to Post-Secondary Institutions under Three Projections	80
28	Projected Income from Endowment and Gifts for General Revenues and Student Aid, Public and Private Institutions, High and Low GNP Projections, 1975-76, 1980-81, 1985-86, and 1990-91	84

LIST OF TABLES (Cont'd)

Table		Page
29	Projected Revenues and Range of Revenues in Public and Private Post-Secondary Institutions for Three Enrollment Levels, 1975-76, 1980-81, 1985-86, and 1990-91	85
30	Projected Surplus or Deficit in Public and Private Post-Secondary Institutions, Given Different Levels of Enrollments, Costs, Government Subsidies, and Tuitions, Low GNP Growth, 1975-76, 1980-81, 1985-86, and 1990-91	87
31	Projected Surplus or Deficit in Public and Private Post-Secondary Institutions, Given Different Levels of Enrollments, Costs, Government Subsidies, and Tuitions, High GNP Growth, 1975-76, 1980-81, 1985-86, and 1990-91	96
32	Projected Range of Tuition and Fees per Full-Time Equivalent Student Required to Balance Revenues and Expenditures in Public and Private Post-Secondary Institutions, 1975-76, 1980-81, 1985-86, and 1990-91	109

INTRODUCTION

The projection of higher education costs for the next twenty years is complicated by the practically symbiotic relationship between costs and revenues. There is considerable evidence that institutions in the post-secondary sector will make do with as little, or spend as much, money as is made available to them. There are no generally accepted ceilings or floors for levels of expenditure per pupil, faculty workloads, or class size. In any given year, some institutions of a given type may spend four to six times as much per student as comparable institutions of the same type and size.

This diversity, illustrated in a number of startling graphs by the Carnegie Commission on Higher Education,[1] is fairly well accepted in the post-secondary sector. The ebb and flow of resources between individual institutions or types of institutions is a fact of life in the American post-secondary educational scene, and this state of events is considered natural. In the past, for instance, we witnessed periods of penury of public institutions and affluence of private ones. This situation is now reversed.

Despite the impressive volume of resources, which amounted to an estimated $23 billion in 1971-72, relatively little analysis has been lavished on the finances of higher education institutions. A pioneering monograph by Bowen in the late 1960's,[2] a series of Carnegie

Commission monographs giving snapshots of finances of different types of institutions,[3] and a few analytic university-based studies of costs[4] are slim pickings to anyone interested in understanding the dynamics of higher education financing.

Projecting the expenditures and revenues of post-secondary institutions is, at best, a risky and ungrateful job. It is complicated by the absence of consistent data on the finances, resources, and outputs of the sector. The National Center for Educational Statistics (NCES) appears to take a delight in publishing non-comparable statistics from year to year. Unlike other well-disciplined federal agencies, the Center has not tried to build a bridge between one series and another. Adjustments from year to year have to be performed by individual researchers.

Coverage of post-secondary statistics is often such as to reduce their usefulness for researchers. For instance, the Center has failed to collect data on summer session enrollment in every year. While revenues and expenditures are collected on a full-year basis, students enrolled are reported either as of the opening fall enrollment, or only estimated for the regular year. Thus, in practice, most figures presented on the basis of full-time equivalent enrollment include a "load" for uncounted summer students. While this "load" may not be crucial in projecting future expenses, variations in summer session enrollment are likely to affect calculated past trends in costs.

As crucial as this shortcoming seems to be, it is dwarfed by the definitional problems for minor heads of expenditures and revenues reported by NCES. While there is considerable consistency in the more

important heads of expenditures (e.g., instruction and departmental research) and revenues (e.g., tuition and fees or state and local appropriations), other items appear to be recorded less accurately. Thus, considerable judgment about past levels of these outlays is required to decide how they will behave during the next 20 years.

Hence, it comes as no surprise that most existing projections of higher education costs rest on a thin reed. Some assume that costs will continue to increase at the same rate as they have in the past, while others assume that some savings will be effected as a result of the coming penury in post-secondary education.

We decided to undertake the present study because we believe that anticipating the levels of post-secondary budgets is crucial to the formulation of a comprehensive policy for higher education. Given the uncertain behavior of costs, we concluded that no single projection of future costs provides an adequate basis for a policy on how to finance higher education. There is far too much uncertainty about conditions, both within and outside the sector, which may affect both cost and demand for post-secondary education services. Hence, we believe that alternative projections which take into account the possibility of drastic change within the sector are needed to estimate the effect of desirable developments through public policies. In the second place, we intuitively feel that the financial conditions in the post-secondary sector are likely to be affected by social developments outside this sector and must be taken into account.

A new set of projections is especially timely, since many of the developments which will affect education costs and revenues have very little connection with the past. To mention just a few:

(1) The sector is practically certain to stop growing, and may even start declining in the 1980's. Not only is the pool of young persons of college-eligible age going to shrink during the 1980's, but the propensity to attend post-secondary institutions will probably moderate. The supply of persons with advanced degrees has already outstripped the number of jobs which they could aspire to fill; and, similarly, it is quite likely that the supply of persons with four-year college degrees will soon exceed the number of job openings which were hitherto believed to be suitable for college graduates.

(2) The easing of the supply of persons with advanced degrees has already affected the prices paid by the post-secondary sector for professional manpower, and it is reasonable to believe this trend will continue.

(3) New arrangements for post-secondary instruction are more and more likely to supplement, and possibly supplant, institutions of post-secondary education as we know them. The system, which was originally designed to train an elite, has undergone some drastic transformations to become a mass dispenser of post-secondary training, and further adjustments of the system are likely to occur in the future.

At the very outset, we will try to summarize some salient developments in the financing of post-secondary education during the past decade. Later, we blend projections of trends with some subjective estimates of what may happen if demand and costs in the post-secondary sector diverge radically from previous trends. In the concluding section, we attempt to make recommendations to effect changes which will contribute both to the efficiency and to the financial health of the post-secondary sector.

ENROLLMENTS AND TYPES OF STUDENTS IN THE 1960'S

As an introduction to the analysis and projections of this study, we believe it is necessary to comment briefly upon the way statistics of enrollments are collected in the post-secondary sector. Even the most obvious, and the seemingly simplest, classifications, hide some very real differences.

Traditionally, the post-secondary sector has been divided into public and private components. The public component consists predominantly of state-supported institutions, but does include a few which are supported by local governments. These institutions are not separately identified. Nor is any distinction made in the private sector between schools with strong religious affiliations, e.g., Catholic schools, and the rest of the private sector. It would be desirable to make such a distinction, especially in the case of Catholic schools, many of which have access to lower-paid instructors from religious orders.

Most published statistics further subdivide these sectors by types of institutions: universities, other four-year colleges, and two-year schools. It is generally assumed that universities cater to undergraduate and graduate students; four-year colleges to undergraduates and a small number of first professional students; and two-year colleges to freshmen and sophomores.

In actual fact, the situation is more complex. True enough, universities enroll undergraduates, graduates, and professional students. Even though their course offerings are the most

comprehensive, they offer very little instruction, during the ordinary school year, to either non-degree students or students in vocational programs. Four-year schools enroll an increasing proportion of graduate and first professional students in programs essentially leading to a master's degree. Two-year schools do not serve only as gateways to four-year institutions, but also expend a considerable portion of their resources on vocational and avocational degree courses.

The distinction between schools with and without graduate students is not made in any financial statistics published by the Department of Health, Education, and Welfare, U. S. Office of Education, National Center for Educational Statistics. A summary of the distribution of students by level of instruction, degree and non-degree status, and type of institution for Fall 1966 and Fall 1970, the latest year for which the detailed enrollment breakdown is available, appears in Table 1.

It should be noted that the year-to-year snapshots of enrollments reflect the classification of the school during the year when the enrollment was recorded. The classification of schools changes from year to year in the fluid and growing post-secondary sector. For instance, a number of teachers colleges with four-year programs were upgraded during the past decade into four-year liberal arts schools; some liberal arts schools became more heavily committed to first professional and graduate training, but have not been reclassified by NCES.

TABLE 1

DISTRIBUTION OF TOTAL ENROLLMENT IN POST-SECONDARY INSTITUTIONS
BY LEVEL OF INSTRUCTION, CONTROL, AND TYPE OF INSTITUTION, FALL 1966 AND 1970

	Fall 1966					
			Per Cent of Enrollment Within Type and Control			
	Number of Students	Per Cent of Enrollment	Pre-Baccalaureate	First Professional	Graduate	Non-Degree Credit
All Institutions	6,438,477	100.0	82.6	1.6	8.6	7.2
Universities	2,482,036	38.6	79.8	3.1	15.6	1.5
Other Four-Year	2,625,585	40.8	91.0	1.0	6.4	1.6
Two-Year	1,330,856	20.6	71.3	---	---	28.7
Public Institutions	4,381,086	68.0	82.0	1.0	7.7	9.3
Universities	1,778,640	27.6	82.3	2.2	13.5	1.9
Other Four-Year	1,410,664	21.9	91.0	1.2	7.0	1.8
Two-Year	1,191,782	18.5	70.6	---	---	29.4
Private Institutions	2,057,391	32.0	84.0	3.0	10.5	2.5
Universities	703,396	10.9	73.4	5.2	20.8	0.6
Other Four-Year	1,214,921	18.9	90.9	2.0	5.7	1.4
Two-Year	139,074	2.2	77.0	---	---	23.0

TABLE 1 (Cont'd)

DISTRIBUTION OF TOTAL ENROLLMENT IN POST-SECONDARY INSTITUTIONS
BY LEVEL OF INSTRUCTION, CONTROL, AND TYPE OF INSTITUTION, FALL 1966 AND 1970

	Fall 1970					
			Per Cent of Enrollment Within Type and Control			
	Number of Students	Per Cent of Enrollment	Pre-Baccalaureate	First Professional	Graduate	Non-Degree Credit
All Institutions	8,649,368	100.0	79.9	2.0	10.4	7.7
Universities	3,076,941	35.6	76.9	3.9	18.1	1.1
Other Four-Year	3,345,213	38.7	87.0	1.6	10.4	1.0
Two-Year	2,227,214	25.6	73.4	---	---	26.6
Public Institutions	6,476,058	74.9	79.7	1.2	9.4	9.7
Universities	2,350,204	27.2	80.1	2.9	15.6	1.4
Other Four-Year	2,023,882	23.4	86.8	0.4	12.0	0.8
Two-Year	2,101,972	24.3	72.3	---	---	27.7
Private Institutions	2,173,310	25.1	80.4	4.5	13.6	1.5
Universities	726,737	8.4	66.1	7.1	26.2	0.6
Other Four-Year	1,321,331	15.3	87.3	3.5	7.9	1.3
Two-Year	125,242	1.4	91.2	---	---	8.8

Source: U. S. Department of Health, Education, and Welfare, Office of Education, Opening Fall Enrollment, 1966-67, Washington, D. C., U. S. Government Printing Office, 1967; Fall Enrollment in Higher Education, 1970, Supplementary Data, Washington, D. C., U. S. Government Printing Office, 1971; Enrollment for Advanced Degrees, 1966-67, Washington, D. C., U. S. Government Printing Office, 1968; Non-Degree Credit Enrollment 1966-67 estimated from Projections of Educational Statistics to 1980-81, 1971 Edition, Washington, D. C., U. S. Government Printing Office, 1972.

RECAPITULATION OF CURRENT EXPENDITURES AND REVENUES

The following exposition of post-secondary expenditures and revenues suffers from the sin of agglomeration. Unfortunately, the detailed records from which the data have been compiled are not available from the National Center for Educational Statistics. Agreements with individual institutions to withhold data from public dissemination make it impossible to reclassify these statistics on a more rational basis.

We are thus constrained to present conglomerates of expenditures and revenues as they have been classified by NCES, and hope that these averages are representative of the class of institution which they purport to describe. Even in the case of agglomerated expenditures, the extent of detail reported varies between the first and second half of the 1960's, and classifications change from year to year.

In this study, we first present a longer series, starting with 1959-60, which we have tried to render comparable for the whole period; and second, a shorter series, 1965-66 to 1969-70, based on more detailed data, which is used to condense the expenditures and revenues related to the main function of the post-secondary system, instruction. These are the only years for which sufficient information exists to make this manipulation of data possible.

Expenditures. A series of tables (Appendix Tables 1.1 through 1.13) detail the gross expenditures of institutions of higher education as reported by special surveys of the Department of Health, Education, and Welfare, U. S. Office of Education, National Center for

Educational Statistics. The period covered by these tables is 1959-60 through 1969-70. During that period, total current fund expenditures of higher education more than tripled from $5.6 billion in 1959-60 to $21.2 billion in 1969-70. The last four years saw expenditures almost double from $12.3 billion in 1965-66 to $21.2 billion in 1969-70.

Despite the vast increase in the volume of expenditures, the relative importance of many budget items has remained fairly constant. Administration appears to have claimed about 10 per cent of all outlays, instruction and departmental research 30-32 per cent, plant operation and maintenance 7-8 per cent, and auxiliary enterprises some 16 per cent at the beginning of the decade and less than 14 per cent at the end.

As a general rule, administration claims a somewhat higher share of outlays in private institutions, as do auxiliary enterprises. By contrast, a slightly higher percentage of outlays is spent on instruction in higher education institutions in the public sector. Variations by type of institution from year to year are shown in the appendix tables cited above.

The expenditure item which showed the most significant change was organized research, which accounted for over 20 per cent of all outlays in 1963-64, and barely nudged 14 per cent in 1969-70. The decline was equally precipitous in both public and private sectors, but affected the economics of the private four-year schools most drastically. In the mid-1960's, organized and other reimbursed research accounted for roughly a quarter of all outlays in private institutions, and about a fifth of all outlays in public

institutions. Its share of total outlays declined by roughly one-third in both the public and private sector.

Research and development played an even more important role in universities, accounting for thirty per cent of all current outlays of private universities, and slightly more than a quarter of outlays in public universities during the first few years of the decade. By 1969-70, the role of research in total outlays of universities declined by six percentage points from the peak year. The most dramatic reduction of the role of research occurred in private four-year schools. At times during the 1960's, as much as a fifth of their expenditures was accounted for by research. By the end of the decade, research claimed less than one dollar in twelve of outlays in private four-year schools. Public four-year institutions and two-year colleges, which never participated actively in research activity, were not affected by changes in the distribution of research funding. Table 2 summarizes the peaks and troughs for expenditures in all institutions.

Revenues. The total current fund revenues of post-secondary institutions rose from $5.8 billion in 1959-60 to $21.6 billion in 1969-70. Throughout the period, for the post-secondary sector as a whole, roughly twenty per cent of the revenues was derived from student tuition and fees, and another thirty per cent came from government subsidies. These were the only two revenue items to exhibit relative stability during the decade.

By contrast, revenue from auxiliary enterprises, mostly dormitories and cafeteria facilities, provided a smaller and smaller share of the revenue. So did sponsored and separately budgeted

TABLE 2

EXPENDITURES BY TYPE IN POST-SECONDARY INSTITUTIONS, PEAK AND TROUGH YEARS FOR THE PERIOD 1959-60 TO 1969-70

Type of Expenditures	Peak		Trough	
	Year	Per Cent of Total	Year	Per Cent of Total
General Administration	1967-68	10.7[a]	1961-62 1965-66	10.2
Instruction and Departmental Research	1969-70	32.7	1963-64	30.6
Libraries	1968-69 1969-70	3.1	1959-60	2.4
Plant Maintenance and Operation	1959-60	8.4	1965-66 1966-67	6.9
Extension and Public Service	1969-70	6.0	1963-64	3.2
Organized Activities of Educational Departments	1959-60	5.2	1968-69	2.9
Organized Research	1963-64	21.5	1969-70	13.8
Other	1967-68	4.7	1962-62 1963-64	.1

[a]1968-69 - 1969-70 not reported separately.

Source: See Appendix Tables 1.1 to 1.13.

research, which peaked in the middle of the decade, and then played a smaller role in total budgets in later years. Another revenue item which has played a smaller role in revenues is endowment and gift income, down from 10.2 per cent of the total revenues in 1959-60 to 5.0 per cent in 1969-70.

The stability or lack of stability in a number of the revenue items cannot be ascribed to any immutable laws governing post-secondary finance. It came about as a result of the combination of a variety of income patterns in the private and public sectors and government policies (especially in relation to research and development outlays).

Public contributions to total revenue increased from 56 to 64 per cent, paralleling the rise in public enrollments between 1959-60 and 1969-70. Since the proportion of revenues derived from student tuition and fees in public institutions is roughly one-third of what it is in the private sector, one would have expected tuition and fees to play a smaller role at the end, as compared to the beginning, of the period. However, it did not, because the role of tuition increased in both public and private schools and some other revenue items decreased.

The detailed breakdown of revenues by type of institution and by control appear in Appendix Tables 2.1 to 2.13. The changes in the role of various heads of revenue, displaying the peak and trough years for each, are summarized in Table 3.

Expenditures and Revenues for Instruction. Roughly a third of the activities of post-secondary institutions are only indirectly related to instruction. Thus, the higher education sector provides

TABLE 3

REVENUES BY SOURCE IN POST-SECONDARY INSTITUTIONS, PEAK AND TROUGH YEARS FOR THE PERIOD 1959-60 TO 1969-70

Type of Revenue	Peak		Trough	
	Year	Per Cent of Total	Year	Per Cent of Total
Student Tuition and Fees	1965-66	20.9	1963-64	19.8
Government Appropriations	1969-70	32.0	1966-67	27.4
Endowment Income	1959-60	3.6	1969-70	2.1
Private Gifts	1959-60	6.6	1969-70	2.9
Sponsored and Separately Budgeted Research	1965-66	19.3[a]	1969-70	14.0
Other Sponsored Programs	1969-70	4.7[b]	1967-68	4.1
Activities Related to Educational Departments	1969-70	6.1	1963-64	4.5
Other	1965-66	2.3	1961-62 1969-70	1.4
Student Aid Grants	1968-69 1969-70	3.1	1959-60 1961-62 1963-64	1.6
Auxiliary Enterprises	1959-60	17.3	1969-70	13.4

[a]1959-60 to 1963-64 not reported separately.
[b]1959-60 to 1965-66 not reported separately.

Source: See Appendix Tables 2.1 to 2.13.

research and development capability to the federal government and others, for which it gets reimbursed. A large number of institutions also provide dormitory and restaurant facilities, which are generally self-supporting, and are only incidental to the instructional activities at the institution. Lately, post-secondary institutions have also acted as pass-through agents for government student aid funds, and the receipts and disbursements for these moneys are to be found on both sides of institutional statements.

The analysis below nets out most items of expenditures and revenues which affect the instructional function only peripherally. Unfortunately, accounts of the post-secondary sector were not collected in sufficient detail during the first half of the decade, and the netting of receipts and expenditures could be done only for the period 1965-66 through 1969-70. Revenues and expenditures for instruction are presented in Appendix Tables 3.1 to 3.13 and 4.1 to 4.13.

The netting out of outlays and revenues does not significantly affect the relative rates of growth. Netted outlays grew some 75 per cent, while gross costs grew 72 per cent. Revenues on a netted-out basis increased by 71 per cent, as contrasted to 69 per cent of revenues on a gross basis. As could be expected, public sector revenues grew faster than private ones. On a net basis, the increase was 86 per cent in the public sector and 46 per cent in the private sector. On a gross basis, public receipts increased 87 per cent, and private revenues grew 44 per cent.

Total Expenditures for Instruction. Probably the most significant development with regard to expenditures is that they

escalated faster than revenues, especially in the private sector. By 1969-70, private universities and four-year schools were spending more than they were taking in on expenditures associated with instruction, and the proportion of funds from current revenue for capital additions had shrunk considerably in both the private and public sectors. The excess of expenditures amounted to $39 million in private universities, and $12 million in private four-year schools. Total revenues and expenditures for institutions and the resulting surplus or deficit are shown in Table 4.

Some 65-70 per cent of expenditures for all institutions is spent on administration and instruction, about 5 per cent on libraries, 11 per cent or so on operation and maintenance, some 4 per cent on student aid, and some 10 per cent on miscellaneous activities such as extension, related activities of education departments, etc.

During the period 1965-66 through 1969-70, there was considerable stability in most heads of expenses, i.e., they went up in concert from year to year. The two exceptions, as closely as we can determine, are the costs of administration, which trended up, and related activities, mostly cultural programs, which lost ground, suffering the fate of "frills" during a period of increased penury.

The instruction-related expenses look quite similar in the public and private sectors. In the public sector, 65 to 70 per cent is spent on administration and instruction. The expenditures of the private sector fall within the same range, with administration claiming a somewhat higher proportion of outlays and instruction correspondingly less. The share of outlays for

TABLE 4

TOTAL REVENUES, EXPENDITURES, SURPLUS OR DEFICIT FOR INSTRUCTION IN POST-SECONDARY INSTITUTIONS BY CONTROL AND TYPE OF INSTITUTION, 1965-66 TO 1969-70

(Millions of Dollars)

	1965-66	1966-67	1967-68	1968-69	1969-70
All Institutions					
Revenues	$7,918	$9,134	$10,639	$11,631	$13,502
Expenditures	7,447	8,563	10,018	11,213	13,026
Surplus (Deficit)	471	571	621	418	476
Public Institutions					
Revenues	4,881	5,660	6,877	7,565	9,068
Expenditures	4,477	5,263	6,394	7,228	8,546
Surplus (Deficit)	404	397	483	337	522
Universities					
Revenues	2,896	3,232	3,831	4,039	4,676
Expenditures	2,699	3,059	3,635	3,856	4,455
Surplus (Deficit)	197	173	196	183	221
Other Four-Year					
Revenues	1,346	1,654	1,996	2,207	2,724
Expenditures	1,222	1,517	1,836	2,114	2,541
Surplus (Deficit)	124	137	160	93	183
Two-Year					
Revenues	634	776	1,049	1,324	1,674
Expenditures	555	686	921	1,264	1,549
Surplus (Deficit)	79	90	128	60	125

TABLE 4 (Cont'd)

TOTAL REVENUES, EXPENDITURES, SURPLUS OR DEFICIT FOR INSTRUCTION IN POST-SECONDARY INSTITUTIONS BY CONTROL AND TYPE OF INSTITUTION, 1965-66 TO 1969-70

(Millions of Dollars)

	1965-66	1966-67	1967-68	1968-69	1969-70
Private Institutions					
Revenues	$3,038	$3,474	$ 3,762	$ 4,043	$ 4,434
Expenditures	2,968	3,301	3,625	3,987	4,477
Surplus (Deficit)	70	173	137	56	-43
Universities					
Revenues	1,239	1,487	1,600	1,716	1,873
Expenditures	1,316	1,453	1,579	1,705	1,912
Surplus (Deficit)	-77	34	21	11	-39
Other Four-Year					
Revenues	1,663	1,833	1,992	2,148	2,389
Expenditures	1,535	1,711	1,898	2,113	2,401
Surplus (Deficit)	128	122	94	35	-12
Two-Year					
Revenues	133	155	169	181	169
Expenditures	115	136	149	169	166
Surplus (Deficit)	18	19	20	12	3

Note: Totals may not add due to rounding.

Source: See Appendix Tables 3.1 to 3.13.

operation and maintenance and libraries is very similar for both sectors. It is true that the public sector spends more on related activities and extension, and the private sector spends more on student aid (seven per cent, as contrasted to two per cent in the public sector). In other words, the cost of ancillary activities is somewhat different in the two sectors, while core activities claim the same percentage of instruction-related expenses.

The similarity in expenditure patterns between the public and private sectors is evident in the universities. Both groups spend 60 to 65 per cent for administration and instructional activities, and about the same 11 per cent on operation and maintenance, and 5 per cent on libraries. The same differences in student aid found between the entire private and public sectors are also found in universities.

Other four-year colleges, both public and private also look very similar when administration and instructional expenditures are lumped. These two items of expenditure account for some 70 per cent of outlays related to instruction. It should be noted, though, that public schools spend about one out of six dollars for administration from this kitty, while private schools spend one out of four dollars for administrative causes. In private four-year institutions, outlays for libraries and maintenance claim a somewhat higher share, one per cent or more each, of the total instructional costs, with corresponding savings in extension and related activities.

The differences between the public and private institutions are more pronounced in the two-year college sector. Much more is spent on administration in private schools than in public ones.

Operation and maintenance also account for a bigger share in private schools. Since the private sector is tiny, not too much attention will be paid to these differences. More importantly, judging from expenditures, the two-year colleges spend 75 to 80 per cent for administration and instruction, about 10 per cent more of the total than other types of institutions.

Total Revenues for Instruction. Current fund revenues related to instruction, which amounted to $[illegible] billion in 1965-66, totaled $13.5 billion by 1969-70. For all institutions, tuition accounted for roughly one-third of the revenues throughout most of the period. Government appropriations played an increasing role, accounting for 45 per cent of total revenues at the beginning of the period, and 51 per cent at the end. Gift and endowment income, by contrast, played a lesser role, losing slightly more than a percentage point of its share in revenues, and declining from 9.5 per cent in 1965-66 to just under 8.0 per cent in 1969-70.

These shifts in revenue sources only hint at the growing disparities between the public and private sector. While tuition accounted for only 18 per cent of the revenue in the public sector in 1965-66 and 19 per cent by 1969-70, it provided 60 per cent of the revenue in private institutions during the earlier year and 61 per cent in 1969-70. Endowment and private gifts, which accounted for roughly 20 per cent of all receipts in private institutions throughout this period, should be contrasted to government appropriations to public institutions, which increased from 69 per cent to roughly 74 per cent of total revenues. Thus, private institutions had

to make up a differential subsidy of some 50 to 55 per cent. Roughly two-thirds of this difference was made up through higher tuition, and the rest through other income.

Expenditures per Full-Time Equivalent Student. For the post-secondary sector as a whole, the per-student expenditure increased 29 per cent between 1965-66 and 1969-70. The costs escalated by 22 per cent in universities, 38 per cent in other four-year schools, and 55 per cent in two-year schools, when both the private and public sector are lumped. Costs per full-time equivalent student (FTE) rose faster in private universities than in public ones, 33 per cent versus 20 per cent. Costs increased 43 per cent in public other four-year schools and 39 per cent in private other four-year schools during the four years. Public junior college costs escalated fastest, some 60 per cent, while private junior colleges increased their outlay per student by 31 per cent.

If one lumps administrative and instructional costs on the one hand, and all other expenses on the other, both heads of expenditures appear to have increased at roughly the same rate in all institutions, with the exception of public universities. The savings in extension and public service and organized activities of educational departments helped offset price increases in libraries and maintenance.

The detailed presentation of expenditures and revenues per FTE is made in Appendix Table 5.1 to 5.13.

Revenues per Full-Time Equivalent Student. The disparities between the revenue patterns of the public and private sectors can be

highlighted even more meaningfully by examining the trends on the basis of full-time equivalent students. While tuition per FTE student escalated by $126 per FTE student in five years for all institutions, amounting to an average of $699 in 1969-70, the increase in dollar terms was $99 in the public sector, and $389 in the private sector. By 1969-70, the average tuition was $379 in public institutions and $1,537 in the private schools. The magnitude of the gap in tuition by the end of the decade amounted to roughly $1,295 in universities, $1,120 in other four-year schools, and $761 in two-year colleges.

Standard Undergraduate Student Costs. While the full-time equivalent student costs give a rough idea of costs in the post-secondary sector, the changing mix of students between undergraduate, graduate, and first professional, by type of institution, tends to obscure some significant developments. For instance, the proportion of graduate students in the enrollment of other four-year schools increased significantly in the course of the past five years, and part of the increase in full-time equivalent cost is due to this change in the composition of the student body.

Another reason for the variation in associated costs is that price levels changed. As prices increased, so did the expenditures per student.

An understanding of the behavior of outlays can hence be enhanced (1) by adjusting expenditure figures for the mix of undergraduate/first professional/graduate students, and (2) by presenting the outlays in constant prices, so as to meutralize the effects of price fluctuations.

Outlays for instruction adjusted in this manner are shown in Table 7, pages 28 and 29. Below, we present a brief methodological exposition explaining how these adjustments were made.

The Concept of Standard Undergraduate Student. It is generally accepted that more resources are spent on students as they progress through school. Thus, it is cheapest to teach lower-level undergraduates, somewhat more expensive to provide instruction for upper-level undergraduates, and even more expensive to teach, or process, first professional or graduate students. Most expensive of all is the production of Ph.D.'s.

The difference by level of instruction has been recognized, but not thoroughly researched. Three state systems, Oklahoma, California, and Ohio, have collected a variety of figures on this topic, not necessarily in a uniform manner, and, according to the analysts who have compiled them, not necessarily with a great degree of precision.

The Oklahoma figures are rather old, and unfortunately are no longer collected. The statistics for the Ohio system are up to date, but are still in the process of being shaken down, and large unexplained variations appear from year to year. The California figures are the product of some five years' tracking by a group of most sophisticated analysts, both academic and in administration. This study has leaned heavily on the California estimates. The alternative Ohio figures were used to check the sensitivity of the estimates whenever differing weights were adopted. The results of the alternative calculations are also shown in Table 7, pages 28

and 29. The estimated weights by level of instruction are shown in Table 5.

The relative weights for lower-level undergraduates, upper-level undergraduates, etc., were used to construct an index of cost by control and type of institution. With only one observation to go on, the weight for first-professional students is simple. Undergraduate and graduate students require some adjustment by control and type of institution. The proportion of lower-level and upper-level undergraduates varies from school to school; the proportion of lower-level undergraduates is highest in private liberal arts colleges, and lowest in private universities. Hence, the level of effort expended on standard undergraduate students has to be slightly adjusted for this disparity, based on the distribution of Fall enrollment in 1970-71. In the case of graduate students, the proportion of graduate students studying for the Ph.D. is much higher in universities than in liberal arts schools. The proportion of graduate students by type of school and control was calculated by weighting Ph.D.'s granted by a factor of four, and master's degrees by a factor of 2.8 in 1968-69. The proportion of students in each program by level was used to derive weights to translate them into standard undergraduate students. These weights appear in Table 6.

Deflation of Instructional Outlays. As currently reported, instructional outlays consist of three major items: (1) salaries and benefits paid to instructional staff; (2) salaries and benefits paid to secretarial and clerical staffs supporting the instructional staff; and (3) support costs, outlays for supplies, telephones, etc., expended

TABLE 5

INDEXES OF DIFFERENCES IN COST OF INSTRUCTION BY LEVEL OF STUDENT

(All Undergraduates = 1.00)

	California	Ohio	Oklahoma	This Study
Lower Level Undergraduates	.88	.82	.88	.85
Upper Level Undergraduates	1.15	1.38	1.42	1.30
All Undergraduates	1.00	1.00	1.00	1.00
Master's and Professional	2.24		3.61	2.80
Doctorate	2.84		4.72	4.00
Graduate		3.70		3.00

Source: California, "The Costs of Instruction in California Public Higher Education," Coordinating Council for Higher Education, July 1972 (draft copy); Ohio, Ohio Basic Data Series, Higher Education, Ohio Board of Regents, finance data 1968-69, 1969-70, and unpublished tabulations 1971-72; Oklahoma, John J. Coffelt, Faculty Teaching Loads and Student Credit Hour Costs: Oklahoma State System for Higher Education, Oklahoma State Regents for Higher Education, 1964 and 1968.

TABLE 6

WEIGHTING OF FULL-TIME UNDERGRADUATE STUDENTS
BY CONTROL AND LEVEL OF INSTITUTION

	Pre-Baccalaureate	First Professional	Graduate
Public Universities	1.04	2.8	3.1
Other Four-Year	1.04	2.8	2.8
Two-Year	.84	---	---
Private Universities	1.09	2.8	3.1
Other Four-Year	1.03	2.8	2.9
Two-Year	.84	---	---

Source: See Table 5 and text, p. 23f.

by instructional departments. These conglomerate outlays are reported together by the U. S. Office of Education.

A review of available financial reports on file in the library of the National Center for Higher Education was used to estimate the share in each of the three components as follows:

Instructional Salaries	65%
Clerical Wages	20%
Support Costs	15%

Given the spottiness of the data, it was not possible to break down this distribution of expenditure either by type or control of institution.

The total instructional costs were deflated as follows: (1) for the 65 per cent assumed to represent instructional wages, we used an index of instructional personnel salaries and wages based on the Association of American University Professors, weighting each rank by the distribution reported by U.S.O.E. in 1967-68;[5] (2) clerical salaries were deflated by the appropriate clerical wage index of wages paid in 90 major metropolitan areas; and (3) other costs were deflated by the cost of living.

The resulting index was applied to costs in 1966-67 and 1969-70, using 1967-68 costs as a base, i.e., equal to 1.00. The index was .95 for 1966-67 and 1.13 for 1969-70.

Average Costs per Standard Undergraduate Student. Table 7 shows the costs per standard undergraduate student in 1966-67 and 1969-70. The per-SUS figures are in constant dollars, and present the

TABLE 7

COST OF ADMINISTRATION AND INSTRUCTION AND DEPARTMENTAL RESEARCH PER STANDARD UNDERGRADUATE STUDENT, 1966-67 AND 1969-70, BY CONTROL AND TYPE OF INSTITUTION

(Constant 1967-68 Dollars)

	1966-67			1969-70		
	Administration	Instruction and Departmental Research	Total	Administration	Instruction and Departmental Research	Total
			SUS - This Study			
All Institutions	250	752	1,002	267	794	1,061
Universities	226	825	1,051	230	854	1,084
Other Four-Year	290	696	986	311	745	1,056
Two-Year	207	656	863	260	739	999
Public Institutions	196	745	941	219	783	1,002
Universities	198	805	1,003	202	824	1,026
Other Four-Year	205	692	897	228	744	972
Two-Year	171	667	838	243	752	995
Private Institutions	350	764	1,114	377	819	1,196
Universities	290	869	1,159	304	938	1,242
Other Four-Year	387	699	1,086	425	748	1,173
Two-Year	447	583	1,030	441	608	1,049

TABLE 7 (Cont'd)

COST OF ADMINISTRATION AND INSTRUCTION AND DEPARTMENTAL RESEARCH
PER STANDARD UNDERGRADUATE STUDENT, 1966-67 AND 1969-70,
BY CONTROL AND TYPE OF INSTITUTION

(Constant 1967-68 Dollars)

	1966-67			1969-70		
	Administration	Instruction and Departmental Research	Total	Administration	Instruction and Departmental Research	Total
			SUS - Ohio			
All Institutions	243	731	974	259	770	1,029
Universities	216	786	1,002	219	812	1,031
Other Four-Year	285	683	968	304	727	1,031
Two-Year	212	689	901	265	754	1,019
Public Institutions	191	728	919	214	765	979
Universities	189	771	960	194	787	981
Other Four-Year	202	682	884	224	729	953
Two-Year	174	680	854	248	767	1,015
Private Institutions	338	737	1,075	361	783	1,144
Universities	274	819	1,093	284	876	1,160
Other Four-Year	378	683	1,061	412	724	1,136
Two-Year	455	594	1,049	450	620	1,070

Source: See text, p. 22ff, and Appendix Tables 3.1 to 3.13 and 6.1 to 6.3.

costs for roughly the same extent of effort. Two sets of estimates are shown. One is based on the factors adopted for this study, and the other uses the Ohio experience.

Compared to cost estimates in terms of full-time equivalent students, the adjustment to standard undergraduate students shows a considerable narrowing of costs between types of institutions. True, universities still spent more in 1969-70 for instruction per student than either liberal arts colleges or two-year schools, especially if this study's estimates of comparative costs are used. But the differences practically disappear if administration and instruction are lumped, especially if the Ohio estimates are used. If administrative costs are added to the instruction costs, outlays per SUS do not appear to differ more than five per cent between most types of schools. This finding is significant if one is to project costs in the future. In other words, our projections of total expenditures in the post-secondary sector will not be affected crucially by errors in assigning students to different types of schools.

It will be noted that SUS costs do not vary significantly from one period to the next, with the exception of two-year public schools. The relative stability in universities was to be expected. The slight rise in costs in other four-year schools could be due to the costs of integrating faculty formerly used to do research and development, or may have been caused by start-up costs of graduate programs, which are ignored by our calculations.

The increase in two-year college costs is not unexpected. The growth of junior colleges from makeshift institutions manned by part-time faculty, to full-fledged adjuncts of the post-secondary system could not help but raise their costs. During the period 1968-69 to 1969-70, it appears that these costs have stabilized, and are not likely to grow as fast in the future.

The conclusion that costs of instruction and departmental research by type of institution adjusted for standard undergraduate students do not differ dramatically could also be inferred from June O'Neil's study for the Carnegie Commission on Higher Education.[6] Dr. O'Neil found that productivity of the staff in higher education remained fairly constant during the period 1930 to 1967.

THE METHODOLOGY OF LOOKING AT THE FUTURE

This study's projections of expenditures for post-secondary institutions are built up with the help of the following components:

(1) three projections of the number of students by control and type of institution,

(2) three levels of probable costs of instruction and departmental research, the major expenditure for instruction, and

(3) other costs which were varied in proportion to instruction and department research outlays.

Revenue projections were derived from:

(1) two estimates of tuition and fee income,

(2) three levels of state and local government appropriations,

(3) two levels of endowment and gift income, and

(4) other income.

These estimates are combined to derive various combinations of expenditure and revenue, and draw conclusions about the financial health of the post-secondary sector.

Total Students. Since projections of cost depend to a large extent upon the number of students likely to be enrolled, it may be well to begin by discussing total enrollment levels, and then describe the assumptions used to distribute students by level of instruction and type of institution.

In this study, we have adopted three sets of enrollments: a high projection borrowed from Gus W. Haggstrom,[7] who prepared it for the Carnegie Commission on Higher Education; a median

projection based on a model devised by this writer for the Office of Program Planning and Evaluation of the U. S. Office of Education,[8] and a low projection set at 90 per cent of the median projection enrollment.

The Haggstrom projection is based upon an extrapolation of entry rates of high school graduates, a constant retention rate, and further extrapolations of graduate school attendance rates. Haggstrom also provides estimates of attendance for pre-baccalaureate students in all four-year institutions and two-year colleges, and an estimate of first professional students.

The OPPE model is based on (1) trending attendance rates of degree-credit students by income and ability quartile, and (2) assigning to them differential retention rates. It is limited to degree credit students, and does not attempt to project non-degree credit enrollment, which has been increasing at a faster rate than degree credit enrollment. Furthermore, it distinguishes only between undergraduate and graduate students, and does not single out estimates for first professionals. In this study, the model has been supplemented by an estimate of non-degree credit students taken from the NCES projections through 1980-81, and extrapolated beyond that date. Furthermore, the proportion of first professional students to graduates was trended up from 19.0 per cent in 1970-71 to 35.0 per cent in 1990-91, in line with past experience.

The low projection was set at 90 per cent of the enrollment of the median projection. A few informal calculations about the elasticity of demand for college education indicated that, should the

differentials between the lifetime earnings of high school graduates and the college-educated narrow, total enrollments could decline by some ten per cent. The decline, we believe, is likely to be proportional in each level of education throughout the 1980's. After 1980, we decided to keep professional enrollments constant, at a level forecast by Haggstrom, and reduce projections of pre-baccalaureate and graduate students by the same ratio to fit the pre-determined totals of enrollment. This projection could be used to estimate possible savings if one assumed that some proportion of students were to receive their degrees through external examinations or other low-cost arrangements.

A comparison of total enrollments by level for the three projections appears in Table 8.

Full-Time Equivalent Students. The translation of total enrollment by level of student into full-time equivalent students was accomplished in the following manner:

(1) The ratio of full-time to part-time students was calculated from fall enrollment statistics for 1970-71 for each type of institution by type and control.

(2) It was assumed, in line with the practice adopted by NCES, that extension students attended school part-time.

(3) The full-time equivalent of part-time students was set at one-third. This is the figure which has been customarily used for this purpose. It is based on a survey which is now five years old, and we took the opportunity of testing it by comparing the average number of credits carried in the Ohio State system with

TABLE 8

TOTAL STUDENTS ENROLLED IN ALL POST-SECONDARY INSTITUTIONS, FALL 1975, 1980, 1985, AND 1990
BY LEVEL OF INSTRUCTION FOR HIGH, MEDIAN, AND LOW PROJECTIONS

(Thousands of Students)

	1975			1980		
	High	Median	Low	High	Median	Low
Total	11,372	10,740	9,658	13,237	11,840	10,647
Pre-Baccalaureate	9,654	9,211	8,289	11,082	9,915	8,923
First Professional	328	279	249	365	405	363
Graduate	1,390	1,250	1,120	1,790	1,520	1,361

	1985			1990		
	High	Median	Low	High	Median	Low
Total	12,950	11,977	10,826	12,960	11,773	10,570
Pre-Baccalaureate	10,541	9,719	8,747	10,590	9,422	8,480
First Professional	349	528	349	350	611	350
Graduate	2,060	1,730	1,730	2,020	1,740	1,740

Source: See text, p. 32ff.

the appropriate estimates of full-time and part-time students. The estimate stood up to this test.

(4) Since the full-time equivalent ratios for public and private universities for pre-baccalaureate and non-degree students are very close together, it was assumed that private two-year schools by 1975 would also start catering more energetically to part-time students, and by 1975 would have the same full-time equivalent factor as public two-year schools.

The conversion factors used to compute full-time equivalent students from total students are shown in Table 9.

Standard Undergraduate Students. Once projections of full-time equivalent students were made, the factors used to calculate standard undergraduate students in Table 6, p. 26, were applied to each group of students by level, by control and type of institution, to derive estimates through 1990.

Students by Control and Type of Institution. A variety of assumptions were made to distribute students by type of institution and control. For the high enrollment assumption, Haggstrom provides projections for two-year and other colleges, and does not distinguish between enrollments in public and private schools. Hence, we had to make a number of brave assumptions about the future of both the public and private sector. We kept the total enrollment in the private sector fairly constant in the high assumption in accordance with a statement found in the body of Haggstrom's paper. For the median and low assumptions, the share of the private sector was assumed to decline based on past trends. These trends were applied to enrollments by level of instruction.

TABLE 9

RATIO OF FULL-TIME EQUIVALENT STUDENTS TO TOTAL STUDENTS BY LEVEL OF INSTRUCTION,, CONTROL, AND TYPE OF INSTITUTION

	Pre-Baccalaureate	First Professional	Graduate
Public Universities	.86	.99	.75
Other Four-Year	.85	1.00	.50
Two-Year	.65	--	--
Private Universities	.86	.95	.72
Other Four-Year	.85	.90	.62
Two-Year	.65	--	--

Source: Adapted from U. S. Department of Health, Education, and Welfare, Office of Education, Fall Enrollment in Higher Education, 1970, Supplementary Information, Washington, D. C., U. S. Government Printing Office, 1971.

The distribution of students by level was accomplished in the following manner: (1) The proportion of FTE graduate students by type and control of institution was trended, based on the 1965-66 to 1970-71 experience. Estimates of the share of each type of institution by control are shown in Table 10. (2) The FTE equivalent of first professional students was estimated, and the growth in enrollments was allocated to institutions by type and control in proportion to the new places created during the past five-year period (see Table 11). (3) Remaining students, the pre-baccalaureate and non-degree student enrollment, were allocated consonant with variations in past shares of enrollment (see Table 12).

These assumptions produced the following results: (1) The proportion of total graduate students in private universities declines. (2) Most of the decline was offset by increases in professional enrollment. Both public and private four-year schools were projected to play a more important role in post-baccalaureate training. Professional education was likely to play an increasingly important part in private four-year schools.

The distribution by control and type of institution is presented in Tables 13, 14, and 15 for total students, FTE students, and SUS, respectively.

TABLE 10

DISTRIBUTION OF FULL-TIME EQUIVALENT RESIDENT GRADUATE STUDENTS BY TYPE OF INSTITUTION AND CONTROL, ACTUAL FALL 1970, PROJECTED 1975, 1980, 1985, AND 1990

(Per Cent)

	Public		Private	
Fall	Universities	Other Four-Year Schools	Universities	Other Four-Year Schools
1970	45.7	21.7	22.7	9.9
1975	37.8	34.8	16.9	10.5
1980	35.2	41.7	13.5	9.6
1985	32.9	47.4	10.9	8.8
1990	30.6	52.8	8.7	7.9

Source: See text.

TABLE 11

A

RELATION OF TOTAL AND FTE FIRST PROFESSIONAL STUDENTS TO RESIDENT GRADUATE STUDENTS, ACTUAL FALL 1970 AND PROJECTED FALL 1975, 1980, 1985, AND 1990

Fall	First Professional, Per Cent of Resident Graduates	
	Total	FTE
1970	19.0	29.5
1975	22.3	33.0
1980	26.6	40.5
1985	30.5	46.7
1990	35.1	55.0

TABLE 11 (Cont'd)

B

DISTRIBUTION OF FIRST PROFESSIONAL STUDENTS BY CONTROL AND TYPE OF INSTITUTION, ACTUAL FALL 1970, AND PROJECTED 1975, 1980, 1985, 1990 (MEDIAN PROJECTION)

(Per Cent)

	Public				Private			
	Universities		Other Four-Year Schools		Universities		Other Four-Year Schools	
	Total	FTE	Total	FTE	Total	FTE	Total	FTE
1970	39.3	40.6	4.5	4.7	29.4	29.2	26.8	25.4
1975	39.8	41.4	6.1	6.4	22.9	22.9	31.2	29.3
1980	38.8	40.2	7.4	7.8	16.8	16.9	37.0	35.1
1985	36.4	38.0	7.5	8.0	14.0	14.0	42.1	40.0
1990	37.2	38.8	9.8	10.3	12.1	12.1	40.9	38.8

Source: 1970: U. S. Department of Health, Education, and Welfare, Office of Education, Fall Enrollment in Higher Education, 1970, Supplementary Data, Washington, D. C., U. S. Government Printing Office, 1971; for projections, see text, p. 36ff.

TABLE 12

PROJECTED DISTRIBUTION OF PRE-BACCALAUREATE AND NON-DEGREE STUDENTS, TOTAL AND FTE, BY CONTROL AND TYPE OF INSTITUTION

(Per Cent of Total Students)

	1975		1980		1985		1990	
	Total	FTE	Total	FTE	Total	FTE	Total	FTE
				High Projection				
Public Universities	27.4	29.9	28.7	31.5	30.3	33.2	30.5	33.4
Other Four-Year	24.2	26.2	23.9	25.9	22.1	23.9	22.0	23.8
Two-Year	32.1	26.5	33.5	27.8	33.0	27.3	33.1	27.4
Private Universities	4.2	4.5	3.5	3.9	3.9	4.2	3.8	4.1
Other Four-Year	10.9	11.8	9.2	10.0	9.6	10.4	9.4	10.2
Two-Year	1.3	1.0	1.1	.9	1.2	1.0	1.2	.9
				Median and Low Projection				
Public Universities	26.6	29.1	28.1	30.8	28.2	30.8	28.7	31.3
Other Four-Year	23.5	25.4	23.6	25.6	26.3	28.4	25.6	27.7
Two-Year	31.0	25.6	33.0	27.3	31.2	25.8	32.3	26.7
Private Universities	5.2	5.6	4.3	4.8	4.3	4.7	4.2	4.6
Other Four-Year	12.3	13.2	9.8	10.5	8.7	9.4	8.0	8.6
Two-Year	1.4	1.1	1.2	1.0	1.2	1.0	1.3	1.0

Source: See text.

TABLE 13

TOTAL STUDENTS FOR THREE ENROLLMENT PROJECTIONS BY CONTROL AND TYPE OF INSTITUTION FOR FALL 1975, 1980, 1985, AND 1990

(Thousands of Students)

	1975			1980		
	High	Median	Low	High	Median	Low
All Institutions	11,373	10,740	9,658	13,237	11,840	10,647
Universities	4,017	3,789	3,406	4,684	4,139	3,761
Other Four-Year	4,134	3,966	3,566	4,720	4,315	3,839
Two-Year	3,222	2,985	2,686	3,833	3,386	3,047
Public Institutions	9,241	8,517	7,661	11,097	9,757	8,776
Universities	3,298	3,039	2,733	3,962	3,481	3,130
Other Four-Year	2,843	2,620	2,356	3,424	3,009	2,706
Two-Year	3,100	2,858	2,572	3,711	3,267	2,940
Private Institutions	2,132	2,223	1,997	2,140	2,083	1,871
Universities	719	750	673	722	703	631
Other Four-Year	1,291	1,346	1,210	1,296	1,261	1,133
Two-Year	122	127	114	122	119	107

TABLE 13 (Cont'd)

TOTAL STUDENTS FOR THREE ENROLLMENT PROJECTIONS BY CONTROL AND TYPE OF INSTITUTION FOR FALL 1975, 1980, 1985, AND 1990

(Thousands of Students)

	1985			1990		
	High	Median	Low	High	Median	Low
All Institutions	12,950	11,977	10,826	12,960	11,773	10,570
Universities	4,727	4,184	3,830	4,654	4,081	3,698
Other Four-Year	4,625	4,641	4,159	4,676	4,535	4,031
Two-Year	3,598	3,152	2,837	3,630	3,157	2,841
Public Institutions	10,813	9,959	9,054	10,909	9,891	8,950
Universities	4,006	3,503	3,177	3,986	3,457	3,100
Other Four-Year	3,331	3,419	3,144	3,415	3,395	3,115
Two-Year	3,476	3,037	2,733	3,508	3,039	2,735
Private Institutions	2,137	2,018	1,772	2,051	1,882	1,620
Universities	721	681	653	668	624	598
Other Four-Year	1,294	1,222	1,015	1,261	1,140	916
Two-Year	122	115	104	122	118	106

Source: See Appendix Tables 7.1 to 7.6.

TABLE 14

TOTAL FULL-TIME EQUIVALENT (FTE) STUDENTS FOR THREE ENROLLMENT PROJECTIONS BY CONTROL AND TYPE OF INSTITUTION FOR FALL 1975, 1980, 1985, AND 1990

(Thousands of FTE Students)

	1975			1980		
	High	Median	Low	High	Median	Low
All Institutions	8,801	8,334	7,497	10,156	9,118	8,201
Universities	3,391	3,195	2,873	3,947	3,529	3,172
Other Four-Year	3,316	3,198	2,877	3,718	3,388	3,048
Two-Year	2,094	1,941	1,747	2,491	2,201	1,981
Public Institutions	7,059	6,513	5,859	8,418	7,420	6,675
Universities	2,797	2,575	2,316	3,355	2,954	2,656
Other Four-Year	2,247	2,080	1,871	2,651	2,342	2,107
Two-Year	2,015	1,858	1,672	2,412	2,124	1,912
Private Institutions	1,742	1,821	1,638	1,738	1,698	1,526
Universities	594	620	557	592	575	516
Other Four-Year	1,069	1,118	1,006	1,067	1,046	941
Two-Year	79	83	75	79	77	69

TABLE 14 (Cont'd)

TOTAL FULL-TIME EQUIVALENT (FTE) STUDENTS FOR THREE ENROLLMENT PROJECTIONS BY CONTROL AND TYPE OF INSTITUTION FOR FALL 1975, 1980, 1985, AND 1990

(Thousands of FTE Students)

	1985			1990		
	High	Median	Low	High	Median	Low
All Institutions	9,875	9,233	8,302	9,880	9,044	8,059
Universities	3,983	3,541	3,232	3,945	3,471	3,133
Other Four-Year	3,554	3,643	3,225	3,576	3,521	3,079
Two-Year	2,338	2,049	1,845	2,359	2,052	1,847
Public Institutions	8,139	7,576	6,856	8,202	7,495	6,736
Universities	3,388	2,977	2,690	3,387	2,947	2,629
Other Four-Year	2,492	2,625	2,389	2,535	2,573	2,329
Two-Year	2,259	1,974	1,777	2,280	1,975	1,778
Private Institutions	1,736	1,657	1,446	1,678	1,549	1,323
Universities	595	564	542	558	524	504
Other Four-Year	1,062	1,018	836	1,041	948	750
Two-Year	79	75	68	79	77	69

Source: See Appendix Tables 8.1 to 8.6.

TABLE 15

TOTAL STANDARD UNDERGRADUATE STUDENTS (SUS) FOR THREE ENROLLMENT PROJECTIONS BY CONTROL AND TYPE OF INSTITUTION FOR FALL 1975, 1980, 1985, AND 1990

(Thousands of SUS)

	1975			1980		
	High	Median	Low	High	Median	Low
All Institutions	11,121	10,395	9,342	12,939	11,655	10,731
Universities	5,139	4,736	4,254	5,917	5,255	4,872
Other Four-Year	4,223	4,028	3,620	4,930	4,551	4,194
Two-Year	1,759	1,631	1,468	2,092	1,849	1,665
Public Institutions	8,477	7,778	6,992	10,239	9,052	8,310
Universities	3,991	3,636	3,267	4,757	4,216	3,898
Other Four-Year	2,793	2,581	2,320	3,456	3,052	2,806
Two-Year	1,693	1,561	1,405	2,026	1,784	1,606
Private Institutions	2,644	2,617	2,350	2,700	2,603	2,421
Universities	1,148	1,100	987	1,160	1,039	974
Other Four-Year	1,430	1,447	1,300	1,474	1,499	1,388
Two-Year	66	70	63	66	65	59

TABLE 15 (Cont'd)

TOTAL STANDARD UNDERGRADUATE STUDENTS (SUS) FOR THREE ENROLLMENT PROJECTIONS BY CONTROL AND TYPE OF INSTITUTION FOR FALL 1975, 1980, 1985, AND 1990

(Thousands of SUS)

	1985			1990		
	High	Median	Low	High	Median	Low
All Institutions	12,913	12,244	11,001	12,822	12,158	10,707
Universities	5,990	5,400	5,001	5,805	5,286	4,784
Other Four-Year	4,959	5,123	4,451	5,036	5,148	4,371
Two-Year	1,964	1,721	1,549	1,981	1,724	1,552
Public Institutions	10,240	9,553	8,705	10,288	9,603	8,607
Universities	4,851	4,373	3,970	4,767	4,353	3,845
Other Four-Year	3,491	3,522	3,243	3,606	3,591	3,269
Two-Year	1,898	1,658	1,492	1,915	1,659	1,493
Private Institutions	2,673	2,691	2,296	2,534	2,555	2,100
Universities	1,139	1,027	1,031	1,038	933	939
Other Four-Year	1,468	1,601	1,208	1,430	1,557	1,102
Two-Year	66	63	57	66	65	59

Source: See Appendix Tables 9.1 to 9.6.

Future Costs of Instruction and Departmental Research. The following projections of expenditures for instruction and departmental research are in constant 1967-68 dollars, and are based on costs in 1969-70. These expenditures have two components. The first is tied to wage developments, accounting for 85 per cent of the total cost, and is allowed to vary as relative wages in post-secondary education rise without offsetting increases in productivity. The remaining 15 per cent are other costs which are assumed to remain constant.

Wage Developments. A rather elaborate series of adjustments was used to forecast future salaries and wages. Basically, the following assumptions were made:

(1) Total wage costs for instruction will depend upon both future developments in wages and the rank-mix of the faculty. Possible changes in the mix will be discussed in greater detail below.

(2) We believe that clerical and other wages will grow at the same rate as professional wages.

(3) Other expenditures consist of items which are not likely to grow faster than the cost of living. If projections are made in constant prices, their absolute level per faculty member is likely to remain constant.

The first point above needs some elaboration. Because wages of instructional staff have not kept a set relationship either to total wage rates[9] or to professional wages, nor followed a consistent time trend, a number of alternative assumptions can reasonably be made about the future development of salaries of instructional personnel.

In this study, we have adopted three projections of professional wages: (1) a low rate of increase of one per cent in

real terms per year, which mirrors the development of professional wages during the past five years; (2) an increase in real terms of two per cent a year, the rate at which wages increased during the past ten years (this is the median projection); and finally (3) a high projection, which caused wages to increase at 2.7 per cent a year, in proportion to the increase of per capita disposable income in the full employment GNP projection. This is the basis of the high cost projection.[10]

The first three columns of Table 16 show the projected average wage for all faculty, assuming that the mix by faculty rank will remain at the 1967-68 level. In actual fact, there are good reasons to believe that the mix of instructors, assistant professors, associate professors, and full professors is likely to change quite drastically in the course of the next 18 years. The slowing down of the rate of growth of enrollments during the rest of this decade, and the virtual stability of enrollments during the next decade, will cause the average seniority of instructional personnel to increase considerably (see Appendix Table 10).

This increase in rank can only be estimated by simulating the increase in demand for different periods, retirements, resignations, and other attrition year by year. This is precisely what was done for this study. A simulation of promotions and attrition was run for each of the three enrollment estimates. It was assumed that there would be no significant changes in faculty/student ratios from the levels in 1967-68.[11] Theoretically, attrition rates would be 2.5 per cent per year of professors, one per cent of associate

TABLE 16

PROFESSIONAL SALARIES, ACTUAL 1969-70, AND SELECTED PROJECTIONS FOR 1975-76, 1980-81, 1985-86, AND 1990-91

(Constant 1967-68 Dollars)

	Without Seniority Factor			With Seniority Factor		
	High Cost High Enrollment	Median Cost Median Enrollment	Low Cost Low Enrollment	High Cost High Enrollment	Median Cost Median Enrollment	Low Cost Low Enrollment
1969-70		10,530			10,530	
1975-76	12,268	11,829	11,159	12,575	12,279	11,829
1980-81	14,156	12,909	11,699	15,204	13,684	12,775
1985-86	16,344	13,989	12,239	18,894	16,087	14,662
1990-91	18,322	15,068	12,779	22,206	18,202	15,616

Source: Salary Series adapted from AAUP Bulletin, Summer issues, 1962-1972; and U. S. Department of Health, Education, and Welfare, Office of Education, Higher Education Salaries, 1967-68, Washington, D. C., U. S. Government Printing Office, 1970; also see text.

professors, three per cent of assistant professors, and fifty per cent of instructors. No national data on attrition exists; nevertheless, these assumptions are consistent with the experience of the California system.[12] Promotion rates assumed that one-sixth of those in subordinate ranks would be promoted each year.

The resulting simulations indicate that, after twenty years of virtual stability of enrollments, if wage rates did not change, the increased average seniority would cost post-secondary institutions 21-22 per cent more per faculty member than in 1967-68. During the intermediate years, the level of enrollments plays a more significant influence on the distribution by rank, and thus affects the projected salary levels more drastically. Thus, in 1975, the model estimates an increase in average salary levels over 1967-68 of 6.0 per cent with the low enrollment projection, but only 2.5 per cent with the high enrollment projection. Estimated salaries adjusted by the raises due to seniority are shown in the last three columns of Table 16.

The reasonableness of these assumptions can be gauged by comparing the relationship of salary estimates through 1990 to projected per capita income. For the next twenty years under the high GNP assumption, it would be possible under the high salary projection for professionals in the post-secondary system to gain somewhat in comparison to average per capita income; under the median salary projection, they would lose some 7.5 per cent; and for the low salary projection, the loss would amount to some 20.0 per cent. With the low GNP assumption, high salaries would result in a relative gain of 51 per cent, median salaries a gain of

some 24 per cent, and low salaries in a gain of six per cent. (See Table 17.)

These figures indicate that it is reasonable to use (1) high and median salary projections together with high GNP projections, and (2) median and low salary projections with low GNP projections.

Calculations of Total Instruction and Departmental Research Costs. The figures based on the 1969-70 standard undergraduate student costs were multiplied by (1) the estimated number of standard undergraduate students in 1975, 1980, 1985, and 1990; and (2) an index of projected increases in mean cost for instruction and departmental research. Since we estimated three possible trends in professional wage costs for the future, a low, median, and high index of future instructional and departmental research outlays was calculated by (1) applying the new index of professional salaries to 85 per cent of those costs and (2) keeping the other 15 per cent constant, since the projections below are in 1967-68 prices. The index numbers derived from the high, median, and low projections for each level of enrollment appear in Table 18. It will be noted that they differ somewhat from each other, depending on the level of enrollments. These differences are due to the projected mix of faculty by rank, which in turn depends upon the growth of enrollments in previous time periods.

Projections of these costs are based on a series of assumptions which are not immutable. For instance, the projections presume that the mix between students taking degrees in science and

TABLE 17

PROFESSIONAL SALARIES, WITH SENIORITY FACTOR,
AS PER CENT OF PER CAPITA PERSONAL INCOME

	High GNP Projection			Low GNP Projection		
	High	Median	Low	High	Median	Low
1969-70		300			300	
1975-76	303	296	285	314	307	295
1980-81	310	279	260	334	300	280
1985-86	334	284	260	381	324	297
1990-91	340	279	240	454	372	319

Source: Salary series adapted from AAUP Bulletin, Summer issues, 1962-1972; also see text.

TABLE 18

COST INDEXES OF INSTRUCTION AND DEPARTMENTAL RESEARCH

(1967-68 = 100.0)

	High Enrollment			Median Enrollment			Low Enrollment		
	High Cost	Median Cost	Low Cost	High Cost	Median Cost	Low Cost	High Cost	Median Cost	Low Cost
1975	116.5	112.8	107.4	117.6	113.9	108.3	120.5	116.7	111.0
1980	137.6	126.9	116.4	136.1	125.5	115.1	139.5	128.6	117.9
1985	167.5	145.5	129.2	166.7	144.8	128.6	173.3	150.5	133.5
1990	193.9	162.2	139.9	193.9	162.2	139.9	[illegible].5	163.4	140.9

Source: See text.

those taking liberal arts instruction will remain constant. It is quite possible that the mix of degrees will change, and in turn will affect costs. The majority of studies, such as the ones for the state systems of Oklahoma and Ohio, estimate that the cost of instruction in natural sciences is roughly 1.5 to 2.0 times the cost of instruction in social sciences and liberal arts. Currently, slightly over 20 per cent of all undergraduate degrees are conferred in the sciences. It is quite possible that, towards the end of the decade and in the 1980's, the proportion of degrees in the sciences will decline drastically. This trend already manifested itself during the late 1960's and the early 1970's.

We have attempted to estimate the savings from such a decline. The course of undergraduate studies consists of roughly 50 to 60 credits taken in a major or related field, while the remainder of the 130-credit requirement is generally part of a core curriculum. Hence, a degree in a natural science would cost some 20 per cent more to confer than one in some other discipline. If the number of degrees in science were to be reduced by one-half, i.e., from 20 to 10 per cent, roughly a two-per-cent saving in the undergraduate cost of instruction could be effected. The details underlying these calculations for each year appear in Table 19.

Similarly, in the case of graduate studies, if the disparity between natural science and non-science degrees is roughly 50 per cent, as it is on the undergraduate level, a decline from a

TABLE 19

ESTIMATED SAVINGS FROM SHIFT IN PROPORTION OF UNDERGRADUATE DEGREES IN SCIENCE AND PROPORTION OF ALL GRADUATE STUDENTS IN Ph.D. PROGRAMS

A. Cost of Undergraduate Degree in Science

80 credits non-science
50 credits science
130 total credits

If science courses cost 1.5 times non-science courses,

$$\text{Science degree cost} = \frac{80 + (1.5 \times 50)}{130} = 1.19 \times \text{non-science degree cost}$$

B. Savings in Average Cost from Halving Proportion of Undergraduate Science Degrees

	Per Cent in Science	Index of Cost
1969-70	22.1	100
Future	11.1	98

C. Savings in Average Cost from Halving Proportion of Graduate Science Degrees

1969-70	Per Cent in Science	Index of Cost
M.A	21.0)	100
Ph.D.	48.1)	
Future		
M.A.	10.5)	92
Ph.D.	24.0)	

D. Savings from Lower Proportion of Graduate Students in Ph.D. Programs

1969-70	Per Cent of All Graduate Students	Index of Cost
M.A.	83)	100
Ph.D.	17)	
Future		
M.A.	88)	98
Ph.D.	12)	

Source: See text.

quarter of graduate degrees granted in the natural sciences to, say, 10-12 per cent of the total would result in some savings. Graduate students take the lion's share of their courses in their major, and a halving of the share of science degrees could result in roughly an eight per cent saving in graduate programs. Again, the underlying ratios are shown in Table 19.

Another possible shift which may reduce the cost of graduate education is the change in the proportion of students enrolled in Ph.D. programs. Current projections of graduate costs are based on the assumption that the same proportion of students in graduate school will be enrolled in Ph.D. programs in the future as in 1969-70. If Ph.D. production remains fairly constant, say, 20,000 to 30,000 Ph.D.'s per year, some cost reduction in graduate programs can be anticipated. Since the cost of teaching Ph.D. students is roughly one-third higher than that of other graduate students, and graduate enrollments are projected to double by 1990, this shift would result in a decline of two to three per cent in the cost of graduate education.

Trends such as these toward lower ratios of science degrees and a smaller production of Ph.D.'s could be estimated to reduce the cost of instruction by roughly five per cent. When these anticipated savings are applied to previous estimates of instruction and departmental research costs, they indicate the lowest level of instruction and departmental research costs which can reasonably be expected between now and 1990.

Other Costs Related to Instruction. Other costs related to instruction were scaled in proportion to instructional and departmental research outlays. The short discussion below explains the methodology of these estimates.

Administration. The costs of administration in relation to instruction and departmental research have shown a steady but slight increase for the post-secondary system as a whole. The behavior of these costs by type of institution and by type of control has been fairly erratic. We have investigated the causes of these fluctuations and have come to the conclusion that many of the zigs and zags in the series are due to difficulties in insuring consistent reporting of administrative expenditures from year to year. This difficulty is exacerbated by the practice of the National Center for Educational Statistics, which, since 1968-69, has lumped administrative costs with all other expenditures. Hence, it was decided that the 1969-70 costs, which had been estimated by this study with some care, would be used as a standard for the projection of administrative outlays in the future. Thus, a fixed relationship was projected for future years. It appears in Table 20, and summarizes the ratios adopted by control and type of institution for these and other costs.

Libraries. It appears that the levels of library budgets are set arbitrarily as a percentage of both instructional and departmental research outlays and administration. The considerable stability from year to year in the level of these outlays leads us to this conclusion. For instance, in the past, increases in either

TABLE 20

OTHER COSTS RELATED TO INSTRUCTION AS A PER CENT OF INSTRUCTION AND DEPARTMENTAL RESEARCH COSTS BY CONTROL AND TYPE OF INSTITUTION

	Administration	Libraries	Other	Non-Government Student Aid	Total
Public Universities	24.7	7.1	21.2	4.5	65.6
Other Four-Year	30.7	7.2	6.2	1.5	50.2
Two-Year	32.3	5.3	7.5	.4	49.8
Private Universities	38.3	8.5	4.5	13.0	67.4
Other Four-Year	56.3	7.1	6.3	10.5	93.6
Two-Year	72.4	5.9	4.9	4.0	97.9

Source: Appendix Tables 3.1 to 3.13.

total or per FTE expenditures for libraries have had very little relationship to price developments for books and periodicals. These prices increased fifty per cent between 1965 and 1970, and doubled between 1960 and 1970. Yet, over-all library budgets quintupled in current prices between 1959-60 and 1969-70, increasing 2-1/2 times in constant prices. Between 1965-66 and 1969-70, they doubled in current prices, i.e., increased by two-thirds in constant terms. By contrast, the expenditures for FTE students decreased in real terms. It is not at all clear whether economies of scale or penury of funds have held back library expenditures. While complaints have been voiced that allocations for these purposes lack desirable levels in some institutions, it isn't certain that much will be done to change current methods of establishing library budgets. Hence, the previous five years' relationship between library expenses and instructional and departmental research outlays was used in the projections.

Non-Governmental Student Aid. Funds allocated to student aid from institutional resources (as contrasted to pass-through funds of federal and local governments) should more logically be tied to tuition, since most institutions set their budgets for this type of outlay relative to tuition collected. Fortunately, since tuition usually covers the same proportion of outlays in most years, and differs only by type and control of school, there was a relative stability in the amounts allocated to student aid, both as a proportion of the total expenditures and as a proportion of instructional and departmental research. Again, a five-year average

of past outlays by type and control of school was adopted for the purpose of projection.

Other Outlays. The average relationship of other outlays to instruction and departmental research was used to project these expenditures in the future. In most cases, this appeared to be a reasonable estimate. Many schools which were in financial straits have reduced these outlays below the levels of the mid-1960's, and it was believed desirable to assume for the purpose of our projections that modest levels of expenditures would continue.

Plant Operation and Maintenance. The estimated costs of plant operation and maintenance per full-time equivalent student in higher education are very close to the expenses per student incurred in the elementary and secondary sectors during a number of years for which information on these outlays was available in both sectors. In some ways, this is a stroke of good luck, since in another study we have examined the composition of these costs and projected future trends.[13]

Differences in FTE costs by type of institution can be explained by the location of the institution; thus, operation and maintenance costs are higher in the Northeast, where many private liberal arts colleges are located. Other differences in costs per student are mostly due to the amount of space per student. In the past six years, these costs have grown at the same rate in all types of institutions. Also, for the few years for which per-student expenditures for operation and maintenance in post-secondary and elementary and secondary systems are available, it appears that costs

increased at the same rate. Thus, it is reasonable to project these costs in the same way that operation and maintenance were projected for elementary-secondary education. In other words, the real costs in constant terms were assumed to grow 0.7 per cent faster than the price index, and total costs per student were projected to grow at 2.2 per cent a year. Total cost increase per student was thus set at 2.8 per cent per annum. Figures in Table 21 reflect these assumptions.

Total Outlays Associated with Instruction. Total outlays associated with instruction have thus been constructed in two stages:

(1) Instruction and departmental research costs were increased by a set percentage for each type of school by type of control according to the assumptions made above. (These assumptions are summarized in Table 20, p. 60.) For example, total instruction and departmental research in public universities is increased by 65.6 per cent, to arrive at the total cost of instruction less operation and maintenance.

(2) Operation and maintenance of plant based on the estimated full-time-equivalent student was added to the figure above.

Total costs related to instruction are shown in Table 22. It contains 18 sets of estimates for every year. The first nine are based on three enrollment and salary levels, the second nine on the assumption that there will be a shift away from science and that the Ph.D. production will be set at a lower level.

TABLE 21

A

OPERATION AND MAINTENANCE COSTS PER FULL-TIME EQUIVALENT STUDENT IN POST-SECONDARY SECTOR BY CONTROL AND TYPE OF INSTITUTION, ACTUAL 1966-67, 1969-70, AND PROJECTED TO 1975-76 TO 1990-91

(Constant 1967-68 Dollars)

	1966-67	1969-70	1975-76	1980-81	1985-86	1990-91
Public Universities	219	248	297	344	399	463
Other Four-Year	174	193	223	258	299	347
Two-Year	104	121	163	189	219	255
Private Universities	306	357	426	494	573	664
Other Four-Year	214	246	320	371	430	498
Two-Year	169	194	234	272	315	365

TABLE 21 (Cont'd)

B

PROJECTED TOTAL OUTLAYS FOR OPERATION AND MAINTENANCE IN POST-SECONDARY INSTITUTIONS
BY CONTROL AND TYPE OF INSTITUTION, 1975-76 TO 1990-91

(Millions of 1967-68 Dollars)

	1975 Enrollment			1980 Enrollment		
	High	Median	Low	High	Median	Low
All Institutions	2,273	2,173	1,955	3,003	2,714	2,442
Public Institutions	1,660	1,532	1,378	2,294	2,021	1,819
Universities	831	765	688	1,154	1,016	914
Other Four-Year	501	464	417	684	604	544
Two-Year	328	303	273	456	401	361
Private Institutions	613	641	577	709	693	623
Universities	253	264	237	292	284	255
Other Four-Year	342	358	322	396	388	349
Two-Year	18	19	18	21	21	19

TABLE 21 (Cont'd)

B (Cont'd)

PROJECTED TOTAL OUTLAYS FOR OPERATION AND MAINTENANCE IN POST-SECONDARY INSTITUTIONS BY CONTROL AND TYPE OF INSTITUTION, 1975-76 TO 1990-91

(Millions of 1967-68 Dollars)

	1985 Enrollment			1990 Enrollment		
	High	Median	Low	High	Median	Low
All Institutions	3,415	3,190	2,867	3,947	3,609	3,212
Public Institutions	2,592	2,405	2,176	3,029	2,761	2,478
Universities	1,352	1,188	1,073	1,568	1,364	1,217
Other Four-Year	745	785	714	880	893	808
Two-Year	495	432	389	581	504	453
Private Institutions	823	785	691	918	848	734
Universities	341	323	311	371	348	335
Other Four-Year	457	438	359	518	472	374
Two-Year	25	24	21	29	28	25

Source: See text and Table 14, pp. 45 and 46.

TABLE 22

PROJECTED TOTAL CURRENT EXPENDITURES FOR INSTRUCTION IN POST-SECONDARY INSTITUTIONS, CURRENT AND LOWER PROPORTIONS OF SCIENCE DEGREES AND ALL Ph.D. PRODUCTION, BY CONTROL OF INSTITUTION, 1975-76, 1980-81, 1985-86, AND 1990-91

(Billions of 1967-68 Dollars)

	Current Proportion of Science Degrees and All Ph.D. Production				Lower Proportion of Science Degrees and All Ph.D. Production			
All Institutions	1975-76	1980-81	1985-86	1990-91	1975-76	1980-81	1985-86	1990-91
High Enrollment								
Low Cost	17.7	22.3	24.8	26.9	16.9	21.2	23.6	25.5
Median Cost	18.5	24.1	27.6	30.6	17.6	22.9	26.2	29.0
High Cost	19.1	25.9	31.2	35.8	18.1	24.6	29.7	33.9
Median Enrollment								
Low Cost	16.7	19.9	23.3	25.3	15.9	18.8	22.2	24.0
Median Cost	17.4	21.4	25.8	28.7	16.6	20.3	24.5	27.3
High Cost	17.9	22.5	29.3	33.6	17.0	21.4	27.8	31.9
Low Enrollment								
Low Cost	15.5	18.8	21.8	22.5	14.6	17.8	20.7	21.4
Median Cost	16.2	20.3	24.2	25.6	15.3	19.3	23.0	24.3
High Cost	16.6	21.8	27.4	30.0	15.8	20.7	26.0	28.5

TABLE 22 (Cont'd)

PROJECTED TOTAL CURRENT EXPENDITURES FOR INSTRUCTION IN POST-SECONDARY INSTITUTIONS, CURRENT AND LOWER PROPORTIONS OF SCIENCE DEGREES AND ALL Ph.D. PRODUCTION, BY CONTROL OF INSTITUTION, 1975-76, 1980-81, 1985-86, AND 1990-91

(Billions of 1967-68 Dollars)

	Current Proportion of Science Degrees and All Ph.D. Production				Lower Proportion of Science Degrees and All Ph.D. Production			
Public Institutions	1975-76	1980-81	1985-86	1990-91	1975-76	1980-81	1985-86	1990-91
High Enrollment								
Low Cost	12.9	17.0	18.9	20.8	12.3	16.1	18.0	19.7
Median Cost	13.5	18.3	21.0	23.6	12.8	17.4	20.0	22.4
High Cost	13.9	19.7	23.8	27.6	13.2	18.7	22.6	26.2
Median Enrollment								
Low Cost	11.9	14.8	17.4	19.2	11.3	14.0	16.6	18.2
Median Cost	12.4	15.9	19.3	21.8	11.8	15.1	18.3	20.7
High	12.7	16.6	21.9	25.5	12.1	15.8	20.8	24.2
Low Enrollment								
Low Cost	11.0	13.9	16.5	17.4	10.4	13.2	15.7	16.5
Median Cost	11.5	15.0	18.3	19.8	10.9	14.3	17.4	18.8
High Cost	11.8	16.1	20.8	23.2	11.2	15.3	19.7	22.0

TABLE 22 (Cont'd)

PROJECTED TOTAL CURRENT EXPENDITURES FOR INSTRUCTION IN POST-SECONDARY INSTITUTIONS, CURRENT AND LOWER PROPORTIONS OF SCIENCE DEGREES AND ALL Ph.D. PRODUCTION, BY CONTROL OF INSTITUTION, 1975-76, 1980-81, 1985-86, AND 1990-91

(Billions of 1967-68 Dollars)

	Current Proportion of Science Degrees and All Ph.D. Production				Lower Proportion of Science Degrees and All Ph.D. Production			
Private Institutions	1975-76	1980-81	1985-86	1990-91	1975-76	1980-81	1985-86	1990-91
High Enrollment								
Low Cost	4.8	[illegible]	5.9	[illegible]	4.6	5.1	5.6	5.8
Median Cost	5.0	5.8	6.6	[illegible]	4.8	5.5	6.2	6.6
High Cost	5.2	6.2	7.4	8.2	4.9	5.9	7.1	7.7
Median Enrollment								
Low Cost	4.8	5.1	5.9	6.1	4.6	4.8	5.6	5.8
Median Cost	5.0	5.5	6.5	6.9	4.8	5.2	6.2	6.6
High Cost	5.2	5.9	7.4	8.1	4.9	5.6	7.0	7.7
Low Enrollment								
Low Cost	4.5	4.9	5.3	5.1	4.2	4.6	5.0	4.9
Median Cost	4.7	5.3	5.9	5.8	4.4	5.0	5.6	5.5
High Cost	4.8	5.7	6.6	6.8	4.6	5.4	6.3	6.5

Source: See text.

REVENUES

The projection of revenues deals in detail with estimates of (1) tuition and fee income, (2) government appropriations, and (3) endowment and gifts. These three items account for roughly 90 per cent of the revenues of the post-secondary system. The "other" revenues are dealt with as a residual.

Tuition and Fee Income. Revenue from tuition and fees can be reasonably estimated in a number of ways. An obvious one is to tie the total to trends of what these revenues were in relation to disposable income.

For instance, the proportion of personal disposable income paid as tuition and fees in the post-secondary sector increased from roughly .30 per cent of the total disposable income in 1959-60 to close to .67 per cent in 1969-70. It would be reasonable to assume that the proportion of disposable income paid in tuition and fees will continue to increase at the historical rate. The reasoning underlying this assumption runs as follows: As the average affluence of the American population increases, it is only natural that a greater proportion of this increased affluence be spent on post-secondary education. If this trend is followed to its logical conclusion, in 1990 roughly 1.3 per cent of the disposable income in that year, amounting to 19-22 billion dollars (depending upon GNP growth) will be paid in tuition and fees (see Table 23). However, the assumption isn't a very good one. Not only is there evidence of

TABLE 23

POSSIBLE LEVELS OF TUITION AND FEES REVENUES UNDER ALTERNATIVE ASSUMPTIONS ABOUT THE RELATION OF TUITION TO DISPOSABLE INCOME

(Billions of 1967-68 Dollars)

	Tuition Is a Growing Per Cent of Disposable Income			Tuition Is a Constant .67 Per Cent of Disposable Income	
	Per Cent Disposable Income	Low GNP	High GNP	Low GNP	High GNP
1969-70	.67	4.4		4.4	
1975-76	1.02	7.6	7.9	5.8	6.0
1980-81	1.18	10.6	11.3	7.0	7.9
1985-86	1.37	14.1	16.1	8.0	9.2
1990-91	1.57	16.7	22.2	9.3	11.0

Source: See text.

increasing resistance to high tuition and fees as an increasing number of undergraduates choose the lower-cost two-year institutions, but it is also highly unlikely that, given the smaller proportion of the total population who will be college students in the 1980's, an increasing amount of disposable income will be devoted to tuition.

Another assumption that the same proportion of disposable income will be spent on tuition and fees in the future as in 1969-70 is more plausible. If this assumption is followed to its logical conclusion, tuition and fees will amount to something between 9 and 11 billion dollars in 1990. The amounts for intermediate years are also shown in Table 23.

The range between the estimates presented in Table 23 depends not only on the level of the Gross National Product projection, but also on the decision as to what is the most likely propensity to buy higher education. Of the two projections, we believe that the lower approximates more reasonably the willingness of the public to pay tuition and fees. The higher projection (which, in effect, would make the post-secondary sector twice as reliant on tuition and fee income as it is today) would probably require considerably more generous financial assistance to students compared to today's standards.

While the projections shown in Table 23, especially the lower one, probably are a good indication of the amounts likely to be made available for tuition and fees, it seems more reasonable to adopt for purposes of projection somewhat different approaches to

forecasting tuition and fee levels, approaches which better simulate the behavior of institutions. Two such approaches are described below.

The first approach capitalizes on the remarkable stability of tuition and fees in relation to per capita disposable income during the past few years. This stability is illustrated in Table 24. Even in the case of the high-tuition institutions, i.e., private universities, the tuition and fees for FTE students amounted to 51 per cent of the per capita disposable income in 1965-66 and 54 per cent of per capita disposable income in 1969-70. We thus felt that it was more reasonable to set the possible growth of tuition and fees in proportion to average disposable income. For instance, we felt that public universities could get away with charging 16 per cent of the average per capita disposable income, while private universities would continue charging 53 per cent. Admittedly, this trend serves to widen the cost gap between public and private institutions. Nevertheless, such a widening is consistent with our enrollment projections, which assume that the share of enrollments of the public sector will increase from 72 to 87 per cent between now and 1990. The average levels of tuition and fees under the high and low GNP projections are shown for each five-year interval between 1975 and 1990 in Table 25. These figures were multiplied by the full-time equivalent students in each of the three levels of the projections to arrive at estimates of tuition and fee receipts by control of institution. Since the tuition and fee receipts depend not

TABLE 24

TUITION AND FEES REVENUE PER FULL-TIME EQUIVALENT STUDENT AS PER CENT OF PER CAPITA DISPOSABLE INCOME, BY CONTROL AND TYPE OF INSTITUTION, 1965-66 TO 1969-70

	1965-66	1966-67	1967-68	1968-69	1969-70
All Institutions	22.0	21.5	21.1	20.7	21.0
Universities	24.6	24.1	24.8	24.3	24.7
Other Four-Year	24.7	24.3	23.2	23.5	24.0
Two-Year	8.9	8.9	8.8	8.4	8.2
Public Institutions	10.7	10.7	10.9	10.6	11.4
Universities	14.7	14.4	15.5	14.9	15.8
Other Four-Year	9.3	9.6	9.2	9.3	10.1
Two-Year	5.2	5.4	5.6	5.7	6.2
Private Institutions	44.1	43.3	43.2	45.3	46.1
Universities	51.4	50.3	51.0	54.1	54.6
Other Four-Year	41.5	40.8	40.4	42.4	43.7
Two-Year	32.4	33.0	32.4	31.7	29.0

Source: Per Capita Disposable Income, U. S. Bureau of the Census, Statistical Abstract of the United States: 1971 (92nd Edition), Washington, D. C., 1971; Tuition and Fees Revenue, see Appendix Tables 5.1 to 5.13.

TABLE 25

PROJECTED TUITION AND FEES PER FULL-TIME EQUIVALENT STUDENT AS CONSTANT PER CENT OF DISPOSABLE INCOME AND UNDER CONTINUED GROWTH AS IN 1965-66 AND 1969-70, BY CONTROL OF INSTITUTION

(Constant 1967-68 Dollars)

	Constant Per Cent of Disposable Income			Growth Continues as 1965-66 to 1969-70		
	All Institutions	Public Institutions	Private Institutions	All Institutions	Public Institutions	Private Institutions
1969-70	618	335	1,359	618	335	1,359
High GNP						
1975-76	651	403	1,660	687	444	1,670
1980-81	732	477	1,963	797	554	1,973
1985-86	858	558	2,267	985	698	2,334
1990-91	976	642	2,606	1,189	870	2,750
Low GNP						
1975-76	630	390	1,604			
1980-81	684	446	1,833			
1985-86	738	480	1,950			
1990-91	851	560	2,274			

Source: See text and Appendix Tables 5.1 to 5.13.

only on the level of enrollments, but on the level of the gross national product, a high and a low estimate were prepared for each period. (See Table 26.)

Another plausible assumption about the developments of tuition and fees is that they will grow at the same rate, in constant dollars, in the future as they have grown from 1965-66 to 1969-70. For the public sector, this would imply a constant dollar growth of tuition ranging from 6.2 per cent in two-year institutions to 4.0 per cent in universities, and from a decline of one per cent in private two-year schools to a growth of 3.4 per cent in private universities.

The private tuition per FTE under this set of assumptions is nearly the same as the one projected with the high GNP growth. By 1990, it is about 20 per cent higher than the tuition projected with the low GNP growth. Based on a continuation of 1965 to 1969 trends, by 1990 public tuition per FTE will be 35 per cent higher than the tuition projected with the high GNP growth, and 50 per cent higher than the tuition derived by using the low GNP figure.

Government Appropriations. The uncertainty about the future level of government appropriations for the post-secondary system is even greater than the uncertainty about the possible amounts levied in tuition and fees. One could assume that the same proportion of personal income would be earmarked by states and localities for post-secondary education in the future as in 1969-70. Alternatively, it is reasonable to believe that past trends will continue in the

TABLE 26

PROJECTED TUITION AND FEES INCOME AS CONSTANT PER CENT OF DISPOSABLE INCOME AND CONTINUED GROWTH AS IN 1965-66 TO 1969-70, BY CONTROL OF INSTITUTION

(Millions of 1967-68 Dollars)

Year	Enrollment	Constant Per Cent of Disposable Income					
		All Institutions	Public Institutions	Private Institutions	All Institutions	Public Institutions	Private Institutions
1969-70		3,924	1,539	2,386	3,924	1,539	2,386
		High GNP			Low GNP		
1975-76	High	5,738	2,847	2,893	5,544	2,750	2,794
	Median	5,648	2,626	3,023	5,457	2,537	2,920
	Low	5,081	2,362	2,719	4,900	2,282	2,626
1980-81	High	7,432	4,020	3,412	6,944	3,756	3,188
	Median	6,875	3,543	3,333	6,423	3,310	3,113
	Low	6,181	3,186	2,995	5,775	2,977	2,798
1985-86	High	8,481	4,544	3,937	7,292	3,907	3,386
	Median	7,964	4,208	3,756	6,848	3,618	3,230
	Low	7,111	3,809	3,301	6,114	3,275	2,839
1990-91	High	9,644	5,270	4,374	8,408	4,594	3,815
	Median	8,835	4,795	4,040	7,703	4,180	3,523
	Low	7,783	4,302	3,481	6,786	3,750	3,036

TABLE 26 (Cont'd)

PROJECTED TUITION AND FEES INCOME AS CONSTANT PER CENT OF DISPOSABLE INCOME AND CONTINUED GROWTH AS IN 1965-66 TO 1969-70, BY CONTROL OF INSTITUTION

(Millions of 1967-68 Dollars)

Year	Enrollment	Growth Continues as 1965-66 to 1969-70		
		All Institutions	Public Institutions	Private Institutions
1969-70		3,924	1,539	2,386
1975-76	High	6,044	3,134	2,910
	Median	5,932	2,890	3,041
	Low	5,335	2,600	2,735
1980-81	High	8,090	4,661	3,429
	Median	7,456	4,108	3,349
	Low	6,704	3,695	3,009
1985-86	High	9,731	5,680	4,051
	Median	9,096	5,231	3,865
	Low	8,136	4,733	3,403
1990-91	High	11,752	7,138	4,615
	Median	10,720	6,460	4,260
	Low	9,477	5,797	3,679

Note: Totals may not add due to rounding.

Source: See Table 14, p. 45, and Table 25, p. 75.

future and that an increasing proportion of disposable income will be allocated to the post-secondary system via state and local grants (see Table 27). A predictive equation fitted to the past ten years' data takes the following form:

$$App_{s1} = \underset{(1.57538)*}{14.96936(DI)} - \underset{(436.0161)*}{3809.5625}$$

$$R^2 = .9377$$

*Standard errors in this and other equations are in parentheses.

The equation fits past data extremely well, since the R^2 is in excess of .93. Despite the goodness of the statistical fit, there are some doubts that the past is a good predictor of the future. The reluctance of a number of state legislatures to meet cheerfully the demands of chancellors of post-secondary systems indicates that the 1970's and 1980's will be a period of increasing resistance to higher post-secondary subsidies by state and local governments. Even if the proportion of appropriations to personal income were to remain the same, state and local moneys would amount to roughly ten billion dollars by 1990. As will be shown below, this is quite an inadequate amount to meet the requirements for funds in the post-secondary sector. This projection is also shown in Table 27.

A somewhat more sophisticated model which takes into account not only the growth of personal income, but also the number of students enrolled in the public sector, provides projections which fall between the limits set by the first two assumptions.

TABLE 27

STATE AND LOCAL GOVERNMENT APPROPRIATIONS TO POST-SECONDARY INSTITUTIONS UNDER THREE PROJECTIONS

(Billions of Constant 1967-68 Dollars)

	Trend to Disposable Income		Constant 1969-70 Per Cent of Disposable Income		Trend to Disposable Income and Public Enrollment					
					High Enrollment		Median Enrollment		Low Enrollment	
	High GNP	Low GNP	High GNP	Low GNP	High GNP	Low GNP	High GNP	Low GNP	High GNP	Low GNP
1975	7.7	7.3	7.1	6.9	10.0	9.8	9.3	9.1	8.4	8.2
1980	10.6	9.6	8.9	8.3	13.8	13.2	12.2	11.7	11.0	10.5
1985	13.7	11.5	10.8	9.7	15.2	14.0	14.1	12.9	12.9	11.8
1990	17.3	14.0	13.0	11.3	17.3	15.6	15.8	14.2	14.4	12.9

Source: See text and Appendix Tables A-2 and 7.1 to 7.6.

The two variables used in the predictive equation are (1) total disposable income, and (2) the number of students in public institutions. In effect, it is assumed that the willingness of state legislatures to allocate moneys to public institutions depends on both the general affluence of the population and the number of voters being subsidized. The predictive equation based on the last decade's data is

$$\underset{}{\text{Log App}_{sl}} = \underset{(1.14864)}{.64229(\text{LogDI})} + \underset{(.73165)}{.94905(\text{LogENR}_{pub})} - 1.61589$$

$$R^2 = .9796$$

Depending on the level of the gross national product, disposable income will be between 11 and 13 billion dollars. Our projection estimates the amount which could then be reasonably provided by the legislatures by 1990 for the post-secondary sector. Intermediate years are shown in Table 27 as well.

In the case of federal grants, we have made the assumption that they will remain at the 1969-70 level. This assumption is based on our belief that subsidies to graduate students from federal sources will moderate and will not keep up with the growth of the gross national product. We decided not to postulate any per capita aid to post-secondary sectors in order to delay discussion of this topic to another section.

The total estimated federal and other government aid was allocated to the private and public sectors in proportion to the last five years' average shares. These shares have not varied significantly during that period.

Endowment and Gifts Income. Endowment and gifts in the post-secondary sector can either be unrestricted for current operations or restricted for student aid funds. A third type of endowment and gifts earmarked for capital expenditures is not covered by this study.

Despite the lackadaisical performance of endowment income, the total of both endowment income and gifts has followed very closely the trend of the gross national product. The forecasting equations used in this study to project future endowment and gift income are:

General gift and endowment:

$$GI_{EG} = \underset{(.00009)}{.00158(GNP)} - \underset{(31.66524)}{153.8728}$$

$$R^2 = .9830$$

Endowment earmarked for student aid:

$$SAI_{EG} = \underset{(.00001)}{.00025(GNP)} - \underset{(2.72461)}{43.21649}$$

$$R^2 = .9927$$

It will be noted that the R^2 of each equation is very high.

Other more sophisticated equations were tried to fit future developments for this type of revenue. Adding the average unemployment rate to the average level of change in the Standard and Poor's stock market index did not improve the goodness of the fit. Although it is intuitively reasonable that both endowment income and gifts would be affected by the ebullience of the stock market, or by the general economic condition, past developments do not warrant the use of more sophisticated constructs. The level of the gross national

product appears to be a sufficiently sensitive indicator to explain the behavior of this series.

Under the circumstances, we have prepared two sets of estimates of the future trend in endowment and gifts. The first is tied to the high gross national product projection, while the second follows the course of the lower gross national product projection. These estimates are reproduced in Table 28. The table further breaks them down between endowment and gift income likely to be received by public institutions and that benefitting the private post-secondary sector. This distribution was quite easy. The share of the total going to each sector has remained relatively constant in the recent past, and there is very little reason to anticipate that it will change in the future.

Other Income. Other revenues were projected on the basis of experience in 1968-69 and 1969-70. Based on the experience of individual types of institutions, these revenues average some 4.0 - 5.3 per cent of total revenues for public schools, and 8.4 - 10.3 per cent for private schools. Small fluctuations of these revenues will not influence the finances of higher education significantly.

Total Revenues by Sector. Estimates of total revenues by sector are shown in Table 29. The table simplifies the numerous permutations and combinations based on the variety of assumptions, and shows just a high and low figure for each year and level of enrollment.

TABLE 28

PROJECTED INCOME FROM ENDOWMENT AND GIFTS FOR GENERAL REVENUES AND STUDENT AID, PUBLIC AND PRIVATE POST-SECONDARY INSTITUTIONS, HIGH AND LOW GNP PROJECTIONS, 1975-76, 1980-81, 1985-86, AND 1990-91

(Millions of 1967-68 Dollars)

	Public Institutions			Private Institutions		
	General Revenues	Student Aid	Total	General Revenues	Student Aid	Total
High GNP						
1975-76	152	73	225	1,367	149	1,516
1980-81	193	95	288	1,742	192	1,934
1985-86	239	119	358	2,151	240	2,391
1990-91	291	146	437	2,624	296	2,920
Low GNP						
1975-76	146	70	216	1,317	142	1,459
1980-81	180	87	267	1,617	179	1,796
1985-86	214	106	320	1,926	214	2,140
1990-91	252	126	378	2,269	254	2,523

Source: Based on past trends, public institutions receive 10 per cent of total for general revenues and 33 per cent of student aid income; for discussion of total projections, see text.

TABLE 29

PROJECTED REVENUES AND RANGE OF REVENUES IN PUBLIC AND PRIVATE POST-SECONDARY INSTITUTIONS SS FOR THREE ENROLLMENT LEVELS, 1975-76, 1980-81, 1985-86, AND 1990-91

(Millions of 1967-68 Dollars)

Revenue	1975-76 Enrollment			1980-81 Enrollment		
	High	Median	Low	High	Median	Low
Public Institutions						
High	14,215	13,188	11,990	19,732	17,512	15,921
Low	10,669	10,406	10,112	13,307	16,059	12,388
Range	3,546	2,782	1,878	6,425	1,453	3,533
Private Institutions						
High	5,314	5,424	5,060	6,424	6,304	5,912
Low	5,092	5,200	4,848	5,967	5,820	5,458
Range	222	224	212	457	484	454

Revenue	1985-86 Enrollment			1990-91 Enrollment		
	High	Median	Low	HHigh	Median	Low
Public Institutions						
High	22,064	20,819	19,880	26,266	25,448	24,669
Low	15,036	14,667	14,284	17,446	16,949	16,434
Range	7,028	6,152	5,596	8,820	8,499	8,235
Private Institutions						
High	7,727	7,486	6,948	8,955	8,537	7,820
Low	6,597	6,396	5,939	7,471	7,126	6,534
Range	1,130	1,090	1,009	1,484	1,411	1,286

Source: See text.

CONCLUSIONS TO BE DRAWN FROM SIMULATIONS

The results of simulations showing the surpluses or deficits of the public and private sectors are shown in Tables 30 and 31. A number of alternative balances have been struck:

(1) Table 30 shows the deficits or surpluses in a slow-growth economy, with instructional costs rising relatively slowly or at the median rate.

(2) Table 31 shows what the balance between revenues and expenditures may be if the economy operates at a higher level of GNP growth, and costs rise at either the median or high rate.

The projections indicate that receipts and outlays will be in relative balance in 1975 and 1980, and that in 1985 and 1990 public institutions may be hard-pressed for funds, either in a slow-growth economy, or if salary costs are high even with the high GNP. Private institutions, on the other hand, will show a surplus of receipts over outlays in 1975 and 1980 under all cost assumptions, if they continue to raise tuitions; surpluses in the private sector will also occur in 1985 and 1990 under the low and median cost assumptions. Thus, the conclusions to be drawn from the results of the simulations are easier to comment upon if the period through 1980 is discussed first, and projections for the later years are discussed separately.

Projections for 1975 and 1980. The slowing down of the rate of increase of enrollments will certainly ease the financial problems of the post-secondary sector. Under most conceivable assumptions, even if the economy does not operate at full-employment

TABLE 30

PROJECTED SURPLUS OR DEFICIT IN PUBLIC AND PRIVATE POST-SECONDARY INSTITUTIONS, GIVEN DIFFERENT LEVELS OF ENROLLMENTS, COSTS, GOVERNMENT SUBSIDIES, AND TUITIONS, LOW GNP GROWTH, 1975-76, 1980-81, 1985-86, AND 1990-91

(Billions of 1967-68 Dollars)

Tuition Growth at 1965-66 to 1969-70 Rate

	Public Institutions						Private Institutions
	Current Proportion of Science Degrees and All Ph.D. Production			Lower Proportion of Science Degrees and All Ph.D. Production			
	A[a]	B	C	A	B	C	
1975-76							
High Enrollment							
Low Cost	-1,850	1,035	-1,403	-1,205	1,680	-758	408
Median Cost	-2,385	500	1,938	-1,712	1,173	2,611	222
Median Enrollment							
Low Cost	-1,098	1,073	-651	-505	1,666	-58	501
Median Cost	-1,370	568	-1,156	-750	1,188	-536	308
Low Enrollment							
Low Cost	-524	800	-77	24	1,348	471	487
Median Cost	-993	331	546	-421	903	1,118	310

TABLE 30 (Cont'd)

PROJECTED SURPLUS OR DEFICIT IN PUBLIC AND PRIVATE POST-SECONDARY INSTITUTIONS, GIVEN DIFFERENT LEVELS OF ENROLLMENTS, COSTS, GOVERNMENT SUBSIDIES, AND TUITIONS, LOW GNP GROWTH, 1975-76, 1980-81, 1985-86, AND 1990-91

(Billions of 1967-68 Dollars)

Tuition Growth at 1965-66 to 1969-70 Rate

	Public Institutions						
	Current Proportion of Science Degrees and All Ph.D. Production			Lower Proportion of Science Degrees and All Ph.D. Production			Private Institutions
	A[a]	B	C	A	B	C	
1980-81							
High Enrollment							
Low Cost	-2,786	1,994	-1,474	-1,936	2,844	-624	868
Median Cost	-4,105	675	-2,599	-3,189	1,591	-1,683	447
Median Enrollment							
Low Cost	-1,233	2,070	79	-494	2,809	818	921
Median Cost	-2,380	923	-1,068	-1,583	1,720	-271	563
Low Enrollment							
Low Cost	-813	1,401	499	-117	2,097	1,195	789
Median Cost	-1,899	315	-587	-1,148	1,066	164	412

TABLE 30 (Cont'd)

PROJECTED SURPLUS OR DEFICIT IN PUBLIC AND PRIVATE POST-SECONDARY INSTITUTIONS, GIVEN DIFFERENT LEVELS OF ENROLLMENTS, COSTS, GOVERNMENT SUBSIDIES, AND TUITIONS, LOW GNP GROWTH, 1975-76, 1930-81, 1985-86, AND 1990-91

(Billions of 1967-68 Dollars)

Tuition Growth at 1965-66 to 1969-70 Rate

	Public Institutions						
	Current Proportion of Science Degrees and All Ph.D. Production			Lower Proportion of Science Degrees and All Ph.D. Production			Private Institutions
	A[a]	B	C	A	B	C	
1985-86							
High Enrollment							
Low Cost	-2,130	2,031	-384	-1,183	2,978	563	1,348
Median Cost	-4,084	77	-2,338	-3,034	1,127	-1,288	783
Median Enrollment							
Low Cost	-1,153	1,983	593	-281	2,855	1,465	1,161
Median Cost	-2,902	234	-1,156	-1,936	1,200	-190	602
Low Enrollment							
Low Cost	-746	1,299	1,000	78	2,123	1,824	1,225
Median Cost	-2,461	-416	-715	-1,546	499	200	716

TABLE 30 (Cont'd)

PROJECTED SURPLUS OR DEFICIT IN PUBLIC AND PRIVATE POST-SECONDARY INSTITUTIONS, GIVEN DIFFERENT LEVELS OF ENROLLMENTS, COSTS, GOVERNMENT SUBSIDIES, AND TUITIONS, LOW GNP GROWTH, 1975-76, 1980-81, 1985-86, AND 1990-91

(Billions of 1967-68 Dollars)

Tuition Growth at 1965-66 to 1969-70 Rate

	Public Institutions						
	Current Proportion of Science Degrees and All Ph.D. Production			Lower Proportion of Science Degrees and All Ph.D. Production			Private Institutions
	A[a]	B	C	A	B	C	
1990-91							
High Enrollment							
Low Cost	-780	3,348	1,864	258	4,386	2,902	2,136
Median Cost	-3,452	676	-808	-2,272	1,856	372	1,406
Median Enrollment							
Low Cost	62	2,841	2,706	1,020	3,799	3,664	1,781
Median Cost	-2,409	370	235	-1,320	1,459	1,324	1,046
Low Enrollment							
Low Cost	1,106	2,632	3,750	1,975	3,501	4,619	2,048
Median Cost	-1,155	371	1,489	-167	1,359	2,477	1,431

TABLE 30 (Cont'd)

PROJECTED SURPLUS OR DEFICIT IN PUBLIC AND PRIVATE POST-SECONDARY INSTITUTIONS, GIVEN DIFFERENT LEVELS OF ENROLLMENTS, COSTS, GOVERNMENT SUBSIDIES, AND TUITIONS, LOW GNP GROWTH, 1975-76, 1980-81, 1985-86, AND 1990-91

(Billions of 1967-68 Dollars)

Tuition Growth in Relation to Disposable Income

	Public Institutions						
	Current Proportion of Science Degrees and All Ph.D. Production			Lower Proportion of Science Degrees and All Ph.D. Production			Private Institutions
	A[a]	B	C	A	B	C	
1975-76							
High Enrollment							
Low Cost	-2,234	651	-1,787	-1,589	1,296	-1,142	292
Median Cost	-2,769	116	-2,322	-2,096	789	-1,649	106
Median Enrollment							
Low Cost	-1,451	720	-1,004	-858	1,313	-411	380
Median Cost	-1,723	215	-1,509	-1,103	835	-889	187
Low Enrollment							
Low Cost	-842	482	-395	-294	1,030	153	378
Median Cost	-1,063	13	-864	-491	585	-292	201

TABLE 30 (Cont'd)

PROJECTED SURPLUS OR DEFICIT IN PUBLIC AND PRIVATE POST-SECONDARY INSTITUTIONS, GIVEN DIFFERENT LEVELS OF ENROLLMENTS, COSTS, GOVERNMENT SUBSIDIES, AND TUITIONS, LOW GNP GROWTH, 1975-76, 1980-81, 1985-86, AND 1990-91

(Billions of 1967-68 Dollars)

Tuition Growth in Relation to Disposable Income

	Public Institutions						
	Current Proportion of Science Degrees and All Ph.D. Production			Lower Proportion of Science Degrees and All Ph.D. Production			Private Institutions
	A[a]	B	C	A	B	C	
1980-81							
High Enrollment							
Low Cost	-3,691	1,089	-2,379	-2,841	1,939	-1,529	627
Median Cost	-5,010	-36	-3,504	-4,094	880	-2,588	206
Median Enrollment							
Low Cost	-2,031	1,272	-719	-1,292	2,011	20	685
Median Cost	-3,178	125	-1,866	-2,381	922	-1,069	327
Low Enrollment							
Low Cost	-1,531	683	-219	-835	1,379	477	578
Median Cost	-2,617	-403	-1,305	-1,866	348	-554	201

TABLE 30 (Cont'd)

PROJECTED SURPLUS OR DEFICIT IN PUBLIC AND PRIVATE POST-SECONDARY INSTITUTIONS, GIVEN DIFFERENT LEVELS OF ENROLLMENTS, COSTS, GOVERNMENT SUBSIDIES, AND TUITIONS, LOW GNP GROWTH, 1975-76, 1980-81, 1985-86, AND 1990-91

(Billions of 1967-68 Dollars)

Tuition Growth in Relation to Disposable Income

	Public Institutions						
	Current Proportion of Science Degrees and All Ph.D. Production			Lower Proportion of Science Degrees and All Ph.D. Production			Private Institutions
	A[a]	B	C	A	B	C	
1985-86							
High Enrollment							
Low Cost	-3,903	258	-2,157	-2,956	1,205	-1,210	683
Median Cost	-5,857	-1,696	-4,111	-4,807	-646	-3,061	512
Median Enrollment							
Low Cost	-2,766	370	-1,020	-1,894	1,242	-148	527
Median Cost	-4,515	-1,379	-2,769	-3,549	-413	-1,803	32
Low Enrollment							
Low Cost	-2,204	-159	-458	-1,380	665	366	661
Median Cost	-3,919	-1,874	-2,173	-3,004	-959	-1,258	152

TABLE 30 (Cont'd)

PROJECTED SURPLUS OR DEFICIT IN PUBLIC AND PRIVATE POST-SECONDARY INSTITUTIONS, GIVEN DIFFERENT LEVELS OF ENROLLMENTS, COSTS, GOVERNMENT SUBSIDIES, AND TUITIONS, LOW GNP GROWTH, 1975-76, 1980-81, 1985-86, AND 1990-91

(Billions of 1967-68 Dollars)

Tuition Growth in Relation to Disposable Income

	Public Institutions						
	Current Proportion of Science Degrees and All Ph.D. Production			Lower Proportion of Science Degrees and All Ph.D. Production			Private Institutions
	A[a]	B	C	A	B	C	
1990-91							
High Enrollment							
Low Cost	-3,324	804	-680	-2,286	1,842	358	1,336
Median Cost	-5,996	-1,868	-3,352	-4,816	-688	-2,172	606
Median Enrollment							
Low Cost	-2,218	561	426	-1,260	1,519	1,384	1,044
Median Cost	-4,689	-1,910	-2,045	-3,600	-821	-956	309
Low Enrollment							
Low Cost	-940	585	1,703	-71	1,454	2,572	1,405
Median Cost	-3,202	-1,676	-558	-2,214	-688	430	788

TABLE 30 (Cont'd)

PROJECTED SURPLUS OR DEFICIT IN PUBLIC AND PRIVATE POST-SECONDARY INSTITUTIONS, GIVEN DIFFERENT LEVELS OF ENROLLMENTS, COSTS, GOVERNMENT SUBSIDIES, AND TUITIONS, LOW GNP GROWTH, 1975-76, 1980-81, 1985-86, AND 1990-91

(Billions of 1967-68 Dollars)

[a]Revenues from government appropriations in public institutions consist of the following components: (1) a constant federal government appropriation and (2) three levels of state and local government appropriations, labeled A, B, and C.

A: State and local government appropriations are kept at the 1969-70 per cent of GNP (.67%).

B: State and local government appropriations are a function of disposable income and enrollments in public institutions.

C: State and local government appropriations are trended as a function of disposable income for the period 1959-60 to 1969-70.

Source: See text.

TABLE 31

PROJECTED SURPLUS OR DEFICIT IN PUBLIC AND PRIVATE POST-SECONDARY INSTITUTIONS, GIVEN DIFFERENT LEVELS OF ENROLLMENTS, COSTS, GOVERNMENT SUBSIDIES, AND TUITIONS, HIGH GNP GROWTH, 1975-76, 1980-81, 1985-86, AND 1990-91

(Billions of 1967-68 Dollars)

Tuition Growth at 1965-66 to 1969-70 Rate

	Public Institutions						Private Institutions
	Current Proportion of Science Degrees and All Ph.D. Production			Lower Proportion of Science Degrees and All Ph.D. Production			
	A[a]	B	C	A	B	C	
1975-76							
High Enrollment							
Median Cost	-2,141	725	-1,060	-1,468	1.398	-387	285
High Cost	-2,511	355	-1,914	-1,818	1,048	-1,221	158
Median Enrollment							
Median Cost	-1,359	778	-762	-739	1,398	-142	370
High Cost	-1,693	444	-1,096	-1,056	1,081	-459	246
Low Enrollment							
Median Cost	-749	522	-152	-177	1,094	420	372
High Cost	1,057	214	-460	1,646	803	129	257

TABLE 31 (Cont'd)

PROJECTED SURPLUS OR DEFICIT IN PUBLIC AND PRIVATE POST-SECONDARY INSTITUTIONS, GIVEN DIFFERENT LEVELS OF ENROLLMENTS, COSTS, GOVERNMENT SUBSIDIES, AND TUITIONS, HIGH GNP GROWTH, 1975-76, 1980-81, 1985-86, AND 1990-91

(Billions of 1967-68 Dollars)

Tuition Growth at 1965-66 to 1969-70 Rate

	Public Institutions						
	Current Proportion of Science Degrees and All Ph.D. Production			Lower Proportion of Science Degrees and All Ph.D. Production			Private Institutions
	A[a]	B	C	A	B	C	
1980-81							
High Enrollment							
Median Cost	-3,516	1,270	-1,847	-2,600	2,186	-931	601
High Cost	-4,733	53	-3,064	-3,749	1,037	-2,080	240
Median Enrollment							
Median Csot	-1,791	1,452	-122	-994	2,249	675	895
High Cost	-2,331	912	-662	-1,501	1,742	168	400
Low Enrollment							
Median Cost	-1,310	797	359	-559	1,548	1,110	562
High Cost	-2,314	-207	-645	-1,508	599	161	256

TABLE 31 (Cont'd)

PROJECTED SURPLUS OR DEFICIT IN PUBLIC AND PRIVATE POST-SECONDARY INSTITUTIONS, GIVEN DIFFERENT LEVELS OF ENROLLMENTS, COSTS, GOVERNMENT SUBSIDIES, AND TUITIONS, HIGH GNP GROWTH, 1975-76, 1980-81, 1985-86, AND 1990-91

(Billions of 1967-68 Dollars)

Tuition Growth at 1965-66 to 1969-70 Rate

	Public Institutions						
	Current Proportion of Science Degrees and All Ph.D. Production			Lower Proportion of Science Degrees and All Ph.D. Production			Private Institutions
	A[a]	B	C	A	B	C	
1985-86							
High Enrollment							
Median Cost	-3,014	908	-176	-1,964	1,958	874	1,065
High Cost	-5,652	-1,730	-2,814	-4,462	-540	-1,624	300
Median Enrollment							
Median Cost	-1,832	1,397	1,006	-866	2,363	1,972	881
High Cost	-4,290	-1,061	-1,452	-3,196	33	-358	113
Low Enrollment							
Median Cost	-1,391	649	1,447	-476	1,564	2,362	993
High Cost	-3,712	-1,672	-874	-2,674	-634	164	301

TABLE 31 (Cont'd)

PROJECTED SURPLUS OR DEFICIT IN PUBLIC AND PRIVATE POST-SECONDARY INSTITUTIONS, GIVEN DIFFERENT LEVELS OF ENROLLMENTS, COSTS, GOVERNMENT SUBSIDIES, AND TUITIONS, HIGH GNP GROWTH, 1975-76, 1980-81, 1985-86, AND 1990-91

(Billions of 1967-68 Dollars)

Tuition Growth at 1965-66 to 1969-70 Rate

	Public Institutions						
	Current Proportion of Science Degrees and All Ph.D. Production			Lower Proportion of Science Degrees and All Ph.D. Production			Private Institutions
	A[a]	B	C	A	B	C	
1990-91							
High Enrollment							
Median Cost	-1.766	2,455	2,427	-586	3,635	3,607	1,848
High Cost	-5,578	-1,357	-1,385	-4,197	24	-4	805
Median Enrollment							
Median Cost	-723	1,998	3,470	366	3,087	4,559	1,483
High Cost	-4,248	-1,527	-55	-2,973	-252	1,220	432
Low Enrollment							
Median Cost	531	1,857	4,724	-1,519	2,845	5,712	1,864
High Cost	-2,683	-1,357	1,510	-1,525	-199	2,668	985

TABLE 31 (Cont'd)

PROJECTED SURPLUS OR DEFICIT IN PUBLIC AND PRIVATE POST-SECONDARY INSTITUTIONS, GIVEN DIFFERENT LEVELS OF ENROLLMENTS, COSTS, GOVERNMENT SUBSIDIES, AND TUITIONS, HIGH GNP GROWTH, 1975-76, 1980-81, 1985-86, AND 1990-91

(Billions of 1967-68 Dollars)

Tuition Growth in Relation to Disposable Income

	Public Institutions						
	Current Proportion of Science Degrees and All Ph.D. Production			Lower Proportion of Science Degrees and All Ph.D. Production			Private Institutions
	A[a]	B	C	A	B	C	
1975-76							
High Enrollment							
Median Cost	-2,428	438	1,831	-1,755	1,111	2,504	268
High Cost	-2,798	68	2,201	-2,105	761	2,894	141
Median Enrollment							
Median Cost	-1,623	514	-1,026	-1,003	1,134	-406	352
High Cost	-1,957	180	-1,360	-1,320	817	-723	228
Low Enrollment							
Median Cost	-987	212	-390	-415	784	182	356
High Cost	-1,295	-24	-698	-706	565	-109	241

TABLE 31 (Cont'd)

PROJECTED SURPLUS OR DEFICIT IN PUBLIC AND PRIVATE POST-SECONDARY INSTITUTIONS, GIVEN DIFFERENT LEVELS OF ENROLLMENTS, COSTS, GOVERNMENT SUBSIDIES, AND TUITIONS, HIGH GNP GROWTH, 1975-76, 1980-81, 1985-86, AND 1990-91

(Billions of 1967-68 Dollars)

Tuition Growth in Relation to Disposable Income

	Public Institutions						Private Institutions
	Current Proportion of Science Degrees and All Ph.D. Production			Lower Proportion of Science Degrees and All Ph.D. Production			
	A[a]	B	C	A	B	C	
1980-81							
High Enrollment							
Median Cost	-4,157	629	-2,488	-3,241	1,545	-1,572	585
High Cost	-5,374	-588	-3,705	-4,390	396	-2,721	224
Median Enrollment							
Median Cost	-2,356	887	-687	-1,559	1,684	110	699
High Cost	-2,896	347	-1,227	-2,066	1,177	-397	384
Low Enrollment							
Median Cost	-1,819	288	-150	-1,068	1,039	601	548
High Cost	-2,823	-716	-1,154	-2,017	90	-348	242

TABLE 31 (Cont'd)

PROJECTED SURPLUS OR DEFICIT IN PUBLIC AND PRIVATE POST-SECONDARY INSTITUTIONS, GIVEN DIFFERENT LEVELS OF ENROLLMENTS, COSTS, GOVERNMENT SUBSIDIES, AND TUITIONS, HIGH GNP GROWTH, 1975-76, 1980-81, 1985-86, AND 1990-91

(Billions of 1967-68 Dollars)

Tuition Growth in Relation to Disposable Income

	Public Institutions						
	Current Proportion of Science Degrees and All Ph.D. Production			Lower Proportion of Science Degrees and All Ph.D. Production			Private Institutions
	A[a]	B	C	A	B	C	
1985-86							
High Enrollment							
Median Cost	-4,150	-228	-1,312	-3,100	822	-262	951
High Cost	-6,788	-2,866	-3,950	-5,598	-1,676	-2,760	186
Median Enrollment							
Median Cost	-2,855	374	-17	-1,889	1,340	949	773
High Cost	-5,313	-2,084	-2,475	-4,219	-990	-1,381	5
Low Enrollment							
Median Cost	-2,315	-275	523	-1,400	640	1,438	891
High Cost	-4,636	-2,596	-1,798	-3,598	1,558	-760	199

TABLE 31 (Cont'd)

PROJECTED SURPLUS OR DEFICIT IN PUBLIC AND PRIVATE POST-SECONDARY INSTITUTIONS, GIVEN DIFFERENT LEVELS OF ENROLLMENTS, COSTS, GOVERNMENT SUBSIDIES, AND TUITIONS, HIGH GNP GROWTH, 1975-76, 1980-81, 1985-86, AND 1990-91

(Billions of 1967-68 Dollars)

Tuition Growth in Relation to Disposable Income

	Public Institutions						
	Current Proportion of Science Degrees and All Ph.D. Production			Lower Proportion of Science Degrees and All Ph.D. Production			Private Institutions
	A[a]	B	C	A	B	C	
1990-91							
High Enrollment							
Median Cost	-3,634	587	559	-2,454	1,767	1,739	1,607
High Cost	-7,446	-3,225	-3,253	-6,065	-1,844	-1,872	564
Median Enrollment							
Median Cost	-2,388	333	1,805	-1,299	1,422	2,894	1,263
High Cost	-5,913	-3,192	-1,720	-4,638	-1,917	-445	212
Low Enrollment							
Median Cost	-964	362	3,229	24	1,350	4,217	1,666
High Cost	-4,178	-2,852	15	-3,020	-1,694	1,173	787

[a]See footnote for Table 30, p. 95.

Source: See text.

levels, a sufficient amount of money is likely to be raised for public schools throughout the decade of the 1970's.

Private schools, on condition they do not increase enrollments, will also be able to balance their outlays and revenues during that period. Yet, there are some indications that they may have trouble in keeping up their enrollments. As public places become more readily available, and tuition in public institutions remains quite low, the propensity to attend private schools may decline.

To a large extent, the size of the private sector depends on (1) its ability to offer more resources to a given segment of students who believe that they can benefit from these resources, and (2) the preference of a minority of post-secondary students who choose to attend smaller, more intimate schools. These preferences are exercised selectively, and probably depend very much on the price which has to be paid for the convenience or prestige of attending a private school.

The student in a private school can be likened to the buyer of a Cadillac at full list price, and the student in a public school to the purchaser of a Chevrolet at a discount from list. To illustrate this analogy: a $7,000 Cadillac sells for its list price, a $4,500 Chevrolet can be bought for $3,600. If the values of the cars are proportional to their list price, a Cadillac buyer pays $3,400 more for $2,500 more car. In other words, he gets $0.735 of car for every dollar he spends.

In 1965-66, the average expenditure per standard undergraduate student was $1,318 in the public sector, and $1,528 in the private sector. The respective levels of tuition in that year were $294 in the public sector and $1,189 in the private sector. Thus, for $210 more expenditures, the private school student was paying $895 more. In other words, an undergraduate was getting $0.234 for every additional dollar spent. By 969-70, following this calculation, the private student was getting $0.285 per dollar spent. Nevertheless, the share of the private sector declined both at the under-graduate and graduate levels.

In 1975, with the present trend in tuition, for the median cost, median projection of enrollments, the SUS costs are estimated at $1,623 in the public sector, and $1,961 in the private sector. The tuition projected for that year is $444 for the public sector and $1,670 in the private sector. For $338 extra output, the private student is expected to pay $1,226. This is a return of $0.276 on the dollar. In 1980, a similar calculation produces a return of $0.237 on the dollar (see Appendix Table 11).

By contrast, the graduate student, at 3.0 SUS costs, was getting $0.70 to $0.85 for each dollar of increased tuition in 1965-66 and 1969-70. In 1975 and 1985, unless private tuition rates are decreased, graduate students will be getting $0.80 to $0.90 on the dollar.

Thus, the problems of private schools are likely to continue for the next ten years, as they will be desperately fighting to maintain their levels of enrollment.

Some Policy Implications for the 1970's. The conclusions to be drawn from these projections are not encouraging:

(1) In order to protect enrollments in private schools, student aid formulas will have to be geared in such a way as to encourage students to attend private schools. The type of student aid given to veterans after World War II, when the government paid tuition and fees of students and provided them with a modest living allowance, would be ideal. By contrast, the present policy of providing a $1,500 basic grant ceiling to needy students and encouraging them to borrow the difference makes attendance in private schools less attractive.

Of course, it is not at all clear to what extent easier credit terms may be accepted by students as a substitute for grants. If the assumption is made that students are as willing to borrow as to accept student aid, the prospects of private schools are somewhat brighter than we indicated. Intuitively, we believe that this is a wild assumption.

(2) Per capita grants for FTE students are less urgent today than they were during the 1960's. These grants are not likely to help the private sector in stabilizing enrollments, unless the allocations from non-federal government sources decline by the amount of the subsidy. If tuition rates are reduced by the same amount in both sectors, the ratio of "bang for the extra buck" in the private sector will not change. If, as is provided under present legislation, the subsidy is somewhat more per FTE in the public sector than in the private sector, the returns

from the extra advantage of attending the private sector will decrease.

The only condition under which per capita grants will benefit the private sector is if they are used (a) to reduce state appropriations for support of post-secondary education in the public sector, or (b) to reduce tuition in the private sector. Whether this state of affairs is likely to prevail, or whether state systems will decide to keep their tuition lower is impossible to forecast.

The Situation in the 1980's. A number of conclusions with obvious policy implications can be drawn from the results of these simulations for the 1980's:

(1) In the long run, neither the public nor private sector can afford high rates of increases in salaries.

(2) The public sector will be able to balance receipts and expenditures in the mid-1980's and later, if tuition rates either follow past trends or increase along with growth in per capita disposable income, on the condition that state and local governments do not tighten the purse strings when appropriating money for post-secondary institutions. In summary, the financial health of the public sector will depend to a large extent upon the condition of state government budgets. An easing of the pressures on state resources, either through revenue sharing or the federal assumption of some state burdens, e.g., welfare, could probably go a long way towards alleviating conditions in public post-secondary education.

(3) The financial resources of the private sector are less likely to be strained in the future as they are today, assuming that the private sector keeps its enrollments relatively stable. If tuition and fees increase at their past rates, the private sector will run slight surpluses until the middle of the 1980's, and by the last half of the 1980's will be able either to reduce the rate of increase in tuition and fees, or to enroll up to 50 per cent more students in a high GNP economy or 10 per cent in a low GNP economy than has been projected.

Alternative Outcomes of the Future of Post-Secondary Finances. A number of alternative outcomes of the finances of higher education can be visualized. Two in particular will be discussed.

1. Changes in Tuition and Fees. Tuition and fees in the public sector can rise faster than during the past period, and those in the private sector can grow somewhat more slowly than in the projection based on past trends. The required levels of tuition to balance outlay and revenue are shown in Table 32.[14]

We believe that a slower growth of tuition in the 1980's is a must for the private sector. With fairly stable enrollments throughout this period, and the competition for students with the public sector, the lower level of tuitions will restore and slightly increase the comparative advantage which the private sector enjoyed at the end of the 1960's.

The problems of the public sector will be somewhat more difficult to solve. Our projections indicate that non-federal public funding is not likely to grow fast enough to cover the deficits of the

TABLE 32

PROJECTED RANGE OF TUITION AND FEES PER FULL-TIME EQUIVALENT STUDENT REQUIRED TO BALANCE REVENUES AND EXPENDITURES IN PUBLIC AND PRIVATE POST-SECONDARY INSTITUTIONS, 1975-76, 1980-81, 1985-86, AND 1990-91

(Constant 1967-68 Dollars)

	Public Institutions			Private Institutions	
	Alternative Levels of Government Appropriations[a]				
	A	B	C	High GNP	Low GNP
	All Enrollment and Cost Projections				
1975-76	627 - 898	370 - 510	550 - 813	1,586 - 1,728	1,509 - 1,687
1980-81	780 - 1,233	374 - 705	583 - 1,035	1,713 - 2,013	1,560 - 1,882
1985-86	919 - 1,539	544 - 1,086	613 - 1,189	1,869 - 2,486	1,689 - 2,165
1990-91	825 - 1,719	589 - 1,236	306 - 1,208	1,593 - 2,733	1,426 - 2,298
	Median Enrollment and Median Cost Projection				
1975-76	748 - 785	419 - 452	655 - 716	1,605	1,639
1980-81	902 - 982	465 - 537	677 - 805	1,713	1,803
1985-86	1,064 - 1,205	638 - 791	689 - 975	1,996	2,165
1990-91	1,104 - 1,329	741 - 958	544 - 976	2,016	2,298

[a]See footnote for Table 30, p. 95.

Source: See text and Appendix Table 12.1 to 12.3.

public sector. It is quite possible that the deficits will be reduced as the expansion of science and Ph.D. programs is curbed; and modest increases in tuition, somewhat above past trends, will bring about a balance between revenues and outlays.

Another possibility is that the public sector will develop low-cost external programs to certify students during the 1980's. Financial imperatives to try alternative educational models will start building up in the mid-1980's. We are less sanguine about their blossoming in the present decade.

2. Shifts of Students Between the Public and Private Sectors. It is possible that the private sector, enjoying a surplus of funds because of rising tuition and stable enrollments, will enroll more students than was projected. With the mix by level kept constant, the number of students and the reduction of public institution deficits can be calculated in a rough and ready manner. The figures are reproduced in Appendix Tables 13 and 14. Under the median cost assumptions and fast tuition growth, these shifts in students could reduce the 1985-86 public school deficits by 50 to 100 per cent, and virtually eliminate them by 1990-91. If tuitions do not grow as fast and private institution surpluses are lower, private schools could take fewer students with correspondingly smaller reductions in public deficits. Public school costs could also be cut by reducing the number of Ph.D. and science degree candidates. These reductions would also reduce public deficits.

Despite these benefits for public school finances, we consider this shift quite unlikely. Private schools are more apt to

use their surplus funds to slow the rate of tuition rise than to enroll more students.

Probable Trends in the 1980's. The conclusions to be drawn from this analysis are the following: (1) Tuition rates in private schools will not rise as much as was projected. Their anticipated surpluses will be partially wiped out, and private schools will not be able to accommodate many additional students. (2) Even with reduced tuition, the returns from additional expenditures by private sector students will not look terribly attractive unless the tuition of public schools goes up faster than forecast. (3) The tuition in public schools could increase faster than forecast, especially in the late 1980's, when state and local aversion to financing increased costs, without fast-growing enrollments, is likely to manifest itself.

Some Policy Implications for the 1980's. Given a reasonable level of effort by state and local governments, the possibility of public sector deficits argues for the revival of a federal subsidy per FTE. Even in the 1980's, this subsidy can only be defended as a device to keep tuition increases down below past trends. It cannot be justified on equity grounds, or on the basis that tuition, without the subsidy, would be claiming a disproportionately high proportion of disposable income.

If such subsidy were to be granted, its justification would be that, in the absence of such payment, public places would be reduced. In this event, a better way of helping public institutions would be to concentrate the aid on institutions which enroll marginal

students, those economically weakest and academically most disadvantaged. Ideally, the most efficient subsidy scheme would channel payments only to those institutions which practice open admission and set no limit on the size of their undergraduate class.

It should be noted that under all assumptions tuition and fees are allowed to rise at least as fast as the growth in disposable income. Under those circumstances, student financial aid policy will have to continue to play an important part in assuring the financial health of the post-secondary sector.

CONCLUDING COMMENTS

The projections presented in this study indicate that the financial problems of the post-secondary sector will probably not be as acute in the near future as they have been in the past. For one thing, the slower growth of enrollments, followed by virtual stability, will enable schools to catch their breath. In the longer run, control of expenses in the public sector, or more generous subsidies to public post-secondary students, will be required to keep the post-secondary sector healthy.

In both the short and the long run, the ability of the private sector to maintain relatively stable enrollments may be questioned.

There is little doubt that the proportion of students in the private sector, both undergraduate and graduate, is affected by the availability of places in the public sector, rather than by relative differences in costs. As long as a student of a given caliber has the choice between equivalent institutions in the public and private sectors, and as long as there is any difference in cost, the public sector will win more often than not.

Given the fixed assets committed to private post-secondary schools, it may be desirable to protect the erosion of the absolute number of enrollees. Whether this could be done through selective student aid, or by limiting public places, is not clear.

Another policy issue which has been slighted so far is the financing of start-up costs for professional schools. We mentioned

that start-up costs of professional schools may be high. We foresee considerably higher enrollments in the professional field, and have heard reservations about the ability of some private schools to participate in meeting the newly created demand.

Finally, since all the conclusions above are based on aggregate data, we cannot overstress the point that a few selective case studies to corroborate or discredit these global projections may be desirable. In either case, they would breathe life into an otherwise dull array of statistics.

It should be emphasized that all the results above are based on the particular paths assumed for such variables as enrollment, GNP, and forecasts of legislative and private donations for post-secondary education. In addition, assumptions about structural factors, such as the particular mix of graduate degree intentions by type of institution (public versus private, four-year school versus university) also play an important part in determining the levels of outlay. But, within the range of the set of reasonable assumptions made here, it is apparent that the financial health of both public and private institutions need not be as great a topic of concern as it has been in the past decade.

FOOTNOTES

1 Carnegie Commission on Higher Education, New Students and New Places, McGraw-Hill Book Co., New York, October 1971, Charts 11-16.

2 William G. Bowen, The Economics of the Major Private Universities, Carnegie Commission on Higher Education, Berkeley, 1968.

3 Earl F. Cheit, The New Depression in Higher Education, A Study of Financial Conditions at 41 Colleges and Universities, Carnegie Commission on Higher Education, McGraw-Hill Book Co., New York, 1971; June O'Neill, Resource Use in Higher Education, Trends in Outputs and Inputs, 1930 to 1967, Carnegie Commission on Higher Education, Berkeley, 1971.

4 "The Costs of Instruction in California Public Higher Education," Coordinating Council for Higher Education, California, July 1972 (draft copy); Ohio Basic Data Series, Higher Education, Ohio Board of Regents, finance data 1968-69, 1969-70, and unpublished tabulations 1971-72; John J. Coffelt, Faculty Teaching Loads and Student Credit Hour Costs: Oklahoma State System for Higher Education, Oklahoma State Regents for Higher Education, 1964 and 1968.

5 U. S. Department of Health, Education, and Welfare, Office of Education, Numbers and Characteristics of Employees in Institutions of Higher Education, Fall 1967, U. S. Government Printing Office, Washington, 1970.

6 June O'Neill, op. cit., Chapter 5.

7 Gus W. Haggstrom, "The Growth of Higher Education in the United States," mimeographed (1972).

8 Joseph Froomkin, Aspirations, Enrollments and Resources, The Challenge to Higher Education in the Seventies, U. S. Government Printing Office, Washington, 1970.

FOOTNOTES (Cont'd)

9 June O'Neill, op. cit., p. 26:

Period[a]	Faculty Salaries	Earnings in All Industries[b]
1930-67	3.4	4.1
1930-40	-0.4	-0.7
1930-34	-3.1	5.3
1934-40	1.6	3.1
1940-50	4.4	8.6
1940-44	1.5	12.2
1944-50	6.4	6.3
1950-60	4.7	4.7
1950-54	5.0	5.5
1954-60	4.5	4.2
1960-67	5.8	4.0

[a]Academic years ending in spring of year indicated.

[b]Average annual earnings of full-time employees in all industries. Annual earnings were converted to a fiscal year basis by averaging earnings for adjacent calendar years.

10 Salary Series adapted from AAUP Bulletin, Summer issues, 1962-1972.

11 U. S. Department of Health, Education, and Welfare, op. cit., Table VII.

12 Robert M. Oliver, An Equilibrium Model of Faculty Appointments, Promotions and Quota Restrictions, Office of the Vice President--Planning, Research Report 69-10, University of California, Berkeley, March 1969.

FOOTNOTES (Cont'd)

13 Joseph Froomkin, J. R. Endriss, Robert W. Stump, Population Enrollment and Costs of Public Elementary and Secondary Education, 1975-76 and 1980-81, A Report to The President's Commission on School Finance, Washington, D. C. 1972.

14 The tuition which balances current expenditures and revenues assumes that revenues will exceed current expenditures by five per cent to provide a small surplus for minor repairs and remodelling of the physical plant. This surplus was registered in most years during the 1960's.

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THE FINANCIAL PROSPECTS OF THE POST-SECONDARY SECTOR, 1975 TO 1990

APPENDIXES

by

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APPENDIX A

PROJECTIONS OF GROSS NATIONAL PRODUCT

The simple model used in this study to project gross national product, personal income, and disposable income is based upon:

(1) Projections of the U. S. population by age, Series E.

(2) Labor force participation rates by age and sex, as projected by the Bureau of Labor Statistics.

(3) A high (3.0 per cent) and a low (2.5 per cent) estimate of productivity.

(4) Two assumptions about unemployment and/or hours worked. For the high GNP projection, it was assumed that unemployment would be at 4.0 per cent, and hours worked would decrease slowly, 0.2 per cent a year. For the low GNP projection, it could be alternatively assumed that hours worked would decrease faster, 0.4 per cent a year, or that unemployment would stabilize at a 6.0 per cent level.

(5) The relationship between gross national product, personal income, and disposable income is that observed in the past three years. It assumes close to full employment, and relatively high levels of government expenditure.

The figures underlying the estimates are reproduced in Tables A.1 and A.2.

APPENDIX TABLE A.1

TOTAL POPULATION, CIVILIAN LABOR FORCE, AND PRODUCTIVITY INDEXES USED TO PROJECT HIGH AND LOW GROSS NATIONAL PRODUCT, 1975, 1980, 1985, AND 1990

(Thousands of Persons)

	Total Population	Civilian Labor Force	Productivity Indexes	
			High	Low
1969	201,306	80,733	100.0	100.0
1975	215,703	89,375	119.4	116.0
1980	227,765	97,244	138.4	131.2
1985	240,153	103,108	160.5	148.5
1990	251,431	108,361	186.0	168.0

Source: 1969: U. S. Bureau of the Census, Statistical Abstract of the United States: 1971 (92nd Edition), Washington, D. C., U. S. Government Printing Office, 1971; Projected Population, U. S. Bureau of the Census, Current Population Reports, Series P-25, No. 470, Projection of the Population of the United States, by Age and Sex: 1976 to 2020, Washington, D. C., U. S. Government Printing Office, 1971; Civilian Labor Force adapted from Sophia C. Travis, The U. S. Labor Force: Projections to 1985, Special Labor Force Report 119, U. S. Department of Labor, Bureau of Labor Statistics, Washington, D. C., 1970.

APPENDIX TABLE A.2

GROSS NATIONAL PRODUCT, PERSONAL INCOME, AND DISPOSABLE INCOME, ACTUAL 1969, AND HIGH AND LOW PROJECTIONS, 1975, 1980, 1985, AND 1990

	1969	1975	1980	1985	1990
Total (Billions of 1967-68 Dollars					
Gross National Product					
High	870.0	1,059.0	1,322.0	1,610.0	1,942.0
Low		1,023.0	1,235.0	1,452.0	1,693.0
Personal Income					
High	702.1	894.7	1,116.9	1,359.9	1,640.7
Low		864.0	1,043.2	1,190.7	1,230.5
Disposable Income					
High	593.2	769.4	960.5	1,164.5	1,411.0
Low		743.0	897.2	1,024.0	1,058.2
Per Capita (1967-68 Dollars)					
Personal Income					
High	3,445.0	4,148.0	4,904.0	5,663.0	6,525.0
Low		4,006.0	4,580.0	4,958.0	4,894.0
Disposable Income					
High	2,906.0	3,567.0	4,217.0	4,870.0	5,612.0
Low		3,445.0	3,939.0	4,264.0	4,209.0

Source: 1969: U. S. Department of Commerce, Bureau of Economic Analysis, Survey of Current Business, National Income Issue, July 1972, Vol. 52, No.7; Projected Population: U. S. Bureau of the Census, Current Population Reports, Series P-25, No. 470, Projections of the United States, by Age and Sex: 1970 to 2020, Series E Projection, Washington, D. C., U. S. Government Printing Office, 1971. For discussion of projection methods, see text.

LIST OF APPENDIX TABLES

1.1-13 Current Funds Expenditures of Higher Education Institutions, by Level of Institution and Control, Selected Years, 1959-60 to 1969-70

2.1-13 Current Funds Revenues of Higher Education Institutions, by Level of Institution and Control, Selected Years, 1959-60 to 1969-70

3.1-13 Current Funds Revenues and Expenditures for Instruction in Institutions of Higher Education, 1965-66 to 1969-70

4.1-13 Distribution of Current Fund Revenues and Expenditures for Instruction in Institutions of Post-Secondary Education by Control and Level of Institution, 1965-66 to 1969-70

5.1-13 Current Funds Revenues and Expenditures for Instruction per Full-Time Equivalent Student in Post-Secondary Institutions, 1965-66 to 1969-70

6.1-3 Total, Full-Time Equivalent (FTE), and Standard Undergraduate (SUS) Students, by Control and Type of Institution and by Level of Instruction

7.1-6 Total Students by Control and Type of Institution and Level of Instruction for Three Enrollment Projections for Fall 1975, 1980, 1985, and 1990

8.1-6 Projected Full-Time Equivalent Students by Control and Type of Institution and Level of Instruction for Three Enrollment Projections for Fall 1975, 1980, 1985, and 1990

9.1-6 Projected Standard Undergraduate Students by Control and Type of Institution and Level of Instruction for Three Enrollment Projections for Fall 1975, 1980, 1985, and 1990

10 Per Cent Distribution of Faculty by Rank for Three Enrollment Projections, Actual 1967-68 and Projected 1975-76, 1980-81, 1985-86, and 1990-91

11.1-2 Ratio of Additional Expenditures per Student to Each Dollar of Higher Tuition Paid in Private Post-Secondary Institutions, Given Alternative Levels of Enrollment, Government Appropriations, and GNP Growth, 1975-76, 1980-81, 1985-86, and 1990-91

LIST OF APPENDIX TABLES (Cont'd)

12.1-3 Projected Tuition and Fees per Full-Time Equivalent Student Required to Balance Revenues and Expenditures in Public and Private Post-Secondary Institutions, 1975-76, 1980-81, 1985-86, and 1990-91

13 Possible Affordable Increase in Enrollments in Private Institutions, under Alternative Levels of GNP, Enrollment Cost, and Tuition, 1985-86 and 1990-91

14.1-4 Reductions in Public Institution Deficits from Increased Enrollments in Private Schools, under Alternative Levels of GNP, Enrollment, Cost, Tuition, and Government Appropriations, 1985-86 and 1990-91

APPENDIX TABLE 1.1

CURRENT FUNDS EXPENDITURES OF HIGHER EDUCATION INSTITUTIONS, BY LEVEL OF INSTITUTION AND CONTROL, SELECTED YEARS, 1959-60 TO 1969-70

(Percent Distribution of Expenditures by Purpose, Dollars in Millions)

All Institutions

	1959-60	1961-62	1963-64	1965-66	1966-67	1967-68	1968-69	1969-70
Education and General	80.6	80.6	80.9	81.2	81.1	81.4	81.9	82.2
General Administration	10.4	10.2	10.5	10.2	10.4	10.7	a	a
Instruction & Departmental Research	32.0	30.8	30.6	30.7	31.2	31.7	32.2	32.7
Libraries	2.4	2.5	2.6	2.8	3.0	3.0	3.1	3.1
Plant Maintenance & Operation	8.4	7.9	7.5	6.9	6.9	7.0	7.2	7.3
Extension & Public Service	3.7	3.4	3.2	3.6	3.5	3.7	5.7[b]	6.0[b]
Organized Activities of Educational Departments	5.2	5.1	5.0	4.5	4.2	3.9	2.9	3.1
Organized Research	18.2	20.6	21.5	19.9	17.9	16.6	14.8	13.8
Other[c]	.2	.1	.1	2.5	4.1	4.7	16.0	16.2
Auxiliary Enterprises	16.3	16.1	15.8	15.3	14.7	14.2	13.7	13.1
Student Aid	3.1	3.2	3.3	3.5	4.2	4.4	4.4	4.7
Total Current Funds Expenditures	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	$5,628	$7,190	$9,225	$12,324	$14,062	$16,289	$18,579	$21,162

See footnotes at end of table.

APPENDIX TABLE 1.2

CURRENT FUNDS EXPENDITURES OF HIGHER EDUCATION INSTITUTIONS, BY LEVEL OF INSTITUTION AND CONTROL, SELECTED YEARS, 1959-60 TO 1969-70

(Percent Distribution of Expenditures by Purpose, Dollars in Millions)

All Public Institutions

	1959-60	1961-62	1963-64	1965-66	1966-67	1967-68	1968-69	1969-70
Education and General	82.4	82.1	82.1	82.8	82.6	83.2	84.0	84.3
General Administration	8.6	8.4	8.9	8.8	9.0	9.6	a	a
Instruction & Departmental Research	34.1	33.2	33.5	34.0	34.3	34.8	35.1	35.7
Libraries	2.4	2.5	2.6	2.9	3.0	3.1	3.1	3.1
Plant Maintenance & Operation	8.6	8.1	7.7	7.0	7.1	7.1	7.4	7.5
Extension & Public Service	6.2	5.7	5.4	5.7	5.1	5.0	7.2[b]	7.2[b]
Organized Activities of Educational Departments	5.9	5.8	5.8	5.0	4.7	4.2	2.9	3.1
Organized Research	16.6	18.5	18.3	16.4	14.8	14.3	13.0	12.0
Other[c]	--	--	--	3.1	4.7	5.1	15.4	15.7
Auxiliary Enterprises	15.6	15.9	15.7	14.9	14.3	13.5	12.7	12.2
Student Aid	2.0	2.0	2.2	2.2	3.1	3.3	3.3	3.5
Total Current Funds Expenditures	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	$3,154	$3,968	$5,114	$6,996	$8,224	$9,927	$11,513	$13,350

See footnotes at end of table.

APPENDIX TABLE 1.3

CURRENT FUNDS EXPENDITURES OF HIGHER EDUCATION INSTITUTIONS, BY LEVEL OF INSTITUTION AND CONTROL, SELECTED YEARS, 1959-60 TO 1969-70

(Percent Distribution of Expenditures by Purpose, Dollars in Millions)

All Private Institutions

	1959-60	1961-62	1963-64	1965-66	1966-67	1967-68	1968-69	1969-70
Education and General	78.3	78.8	79.5	79.0	79.0	78.7	78.4	78.6
General Administration	12.8	12.5	12.4	12.1	12.3	12.5	a	a
Instruction & Departmental Research	29.4	27.9	26.9	26.4	26.8	26.9	27.4	27.6
Libraries	2.5	2.5	2.6	2.7	2.9	3.0	3.0	3.1
Plant Maintenance & Operation	8.1	7.6	7.2	6.7	6.7	6.8	7.0	7.0
Extension & Public Service	0.5	0.6	0.6	0.9	1.1	1.7	3.4[b]	4.0[b]
Organized Activities of Educational Departments	4.7	4.5	4.2	3.9	3.6	3.5	2.9	3.0
Organized Research	20.2	23.2	25.5	24.4	22.3	20.3	17.6	16.8
Other[c]	--	--	--	1.8	3.3	4.1	17.0	17.1
Auxiliary Enterprises	17.2	16.5	15.8	15.9	15.2	15.2	15.3	14.7
Student Aid	4.5	4.7	4.7	5.1	5.8	6.1	6.4	6.8
Total Current Funds Expenditures	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	$2,474	$3,222	$4,110	$5,328	$5,837	$6,362	$7,066	$7,812

See footnotes at end of table.

APPENDIX TABLE 1.4

CURRENT FUNDS EXPENDITURES OF HIGHER EDUCATION INSTITUTIONS, BY LEVEL OF INSTITUTION AND CONTROL, SELECTED YEARS, 1959-60 TO 1969-70

(Percent Distribution of Expenditures by Purpose, Dollars in Millions)

All Universities

	1959-60	1961-62	1963-64	1965-66	1966-67	1967-68	1968-69	1969-70
Education and General	83.1	83.3	83.5	83.3	83.4	83.4	83.9	83.8
General Administration	7.9	7.8	8.0	7.5	7.4	7.5	a	a
Instruction & Departmental Research	28.1	27.5	27.3	27.3	27.2	27.5	27.6	28.1
Libraries	2.2	2.3	2.4	2.5	2.6	2.7	2.7	2.7
Plant Maintenance & Operation	6.7	6.4	6.2	5.7	5.7	5.7	6.0	6.1
Extension & Public Service	5.7	5.2	5.0	5.2	4.8	5.0	8.0[b]	8.6[b]
Organized Activities of Educational Departments	6.9	6.8	6.8	5.8	5.5	5.3	4.0	4.1
Organized Research	25.3	27.3	27.5	26.3	25.4	24.1	22.5	21.0
Other[c]	.3	.2	.3	2.9	4.9	5.5	13.1	13.2
Auxiliary Enterprises	14.0	13.5	13.2	13.1	12.4	12.1	11.5	11.4
Student Aid	2.9	3.1	3.2	3.6	4.3	4.5	4.5	4.8
Total Current Funds Expenditures	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	$3,349	$4,271	$5,435	$7,321	$8,350	$9,657	$10,796	$12,001

See footnotes at end of table.

APPENDIX TABLE 1.5

CURRENT FUNDS EXPENDITURES OF HIGHER EDUCATION INSTITUTIONS, BY LEVEL OF INSTITUTION AND CONTROL, SELECTED YEARS, 1959-60 TO 1969-70

(Percent Distribution of Expenditures by Purpose, Dollars in Millions)

All Public Universities

	1959-60	1961-62	1963-64	1965-66	1966-67	1967-68	1968-69	1969-70
Education and General	83.4	83.7	83.5	83.3	83.2	83.4	84.3	84.3
General Administration	7.0	6.8	7.4	6.9	7.0	7.2	a	a
Instruction & Departmental Research	28.2	27.8	27.7	28.3	28.5	28.9	28.8	29.3
Libraries	2.1	2.2	2.3	2.4	2.5	2.6	2.6	2.7
Plant Maintenance & Operation	6.8	6.4	6.2	5.8	5.8	5.8	6.1	6.3
Extension & Public Service	8.5	7.6	7.3	7.6	6.9	6.7	9.8[b]	9.9[b]
Organized Activities of Educational Departments	7.0	6.9	7.0	5.9	5.7	5.4	3.9	3.9
Organized Research	23.4	25.7	25.4	23.3	21.6	21.0	19.8	18.7
Other[c]	.4	.3	.3	3.3	5.4	5.8	13.2	13.5
Auxiliary Enterprises	14.7	14.3	14.2	14.2	13.5	13.0	12.2	11.9
Student Aid	1.9	2.0	2.3	2.5	3.3	3.6	3.6	3.9
Total Current Funds Expenditures	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	$2,163	$2,749	$3,543	$4,733	$5,384	$6,424	$7,189	$8,090

See footnotes at end of table.

APPENDIX TABLE 1.6

CURRENT FUNDS EXPENDITURES OF HIGHER EDUCATION INSTITUTIONS, BY LEVEL OF INSTITUTION AND CONTROL, SELECTED YEARS, 1959-60 TO 1969-70

(Percent Distribution of Expenditures by Purpose, Dollars in Millions)

All Private Universities

	1959-60	1961-62	1963-64	1965-66	1966-67	1967-68	1968-69	1969-70
Education and General	82.6	82.9	83.6	83.2	83.7	83.5	83.4	83.0
General Administration	9.7	9.5	9.1	8.8	8.3	8.2	a	a
Instruction & Departmental Research	27.8	26.9	26.6	25.5	24.8	24.9	25.4	25.7
Libraries	2.4	2.5	2.5	2.7	2.7	2.7	2.8	2.8
Plant Maintenance & Operation	6.5	6.5	6.2	5.7	5.4	5.5	5.7	5.7
Extension & Public Service	.6	.8	.7	1.0	1.0	1.7	4.5[b]	5.7[b]
Organized Activities of Educational Departments	6.7	6.4	6.5	5.7	5.1	5.1	4.1	4.6
Organized Research	28.8	30.2	31.7	31.9	32.3	30.3	27.9	25.8
Other[c]	.0+	.1	.2	2.1	4.1	4.9	13.1	12.7
Auxiliary Enterprises	12.7	12.2	11.5	11.2	10.3	10.3	10.3	10.3
Student Aid	4.7	5.0	5.0	5.6	6.0	6.2	6.3	6.7
Total Current Funds Expenditures	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	$1,186	$1,522	$1,892	$2,589	$2,966	$3,234	$3,607	$3,912

See footnotes at end of table.

APPENDIX TABLE 1.7

CURRENT FUNDS EXPENDITURES OF HIGHER EDUCATION INSTITUTIONS, BY LEVEL OF INSTITUTION AND CONTROL, SELECTED YEARS, 1959-60 TO 1969-70

(Percent Distribution of Expenditures by Purpose, Dollars in Millions)

All Other Four-Year Institutions

	1959-60	1961-62	1963-64	1965-66	1966-67	1967-68	1968-69	1969-70
Education and General	75.9	75.8	76.4	76.5	76.1	76.4	76.3	77.5
General Administration	14.0	13.8	13.8	13.8	14.3	15.1	a	a
Instruction & Departmental Research	35.9	33.5	32.8	32.9	34.3	34.8	35.1	35.6
Libraries	2.8	2.8	2.9	3.3	3.5	3.6	3.7	3.6
Plant Maintenance & Operation	10.6	9.7	9.0	8.3	8.4	8.4	8.7	8.6
Extension & Public Service	.7	.7	.6	1.0	1.4	1.7	2.8[b]	2.9[b]
Organized Activities of Educational Departments	3.0	3.0	2.6	3.1	2.7	2.2	1.5	1.8
Organized Research	8.9	12.4	14.6	12.4	8.4	7.1	5.0	5.4
Other[c]	.0+	d	.0+	1.8	2.9	3.6	19.4	19.6
Auxiliary Enterprises	20.4	20.4	19.8	19.8	19.3	18.7	18.7	17.2
Student Aid	3.7	3.8	3.8	3.7	4.5	4.9	5.0	5.2
Total Current Funds Expenditures	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	$1,986	$2,547	$3,304	$4,227	$4,757	$5,407	$6,148	$7,194

See footnotes at end of table.

APPENDIX TABLE 1.8

CURRENT FUNDS EXPENDITURES OF HIGHER EDUCATION INSTITUTIONS, BY LEVEL OF INSTITUTION AND CONTROL, SELECTED YEARS, 1959-60 TO 1969-70

(Percent Distribution of Expenditures by Purpose, Dollars in Millions)

All Public Four-Year Institutions

	1959-60	1961-62	1963-64	1965-66	1966-67	1967-68	1968-69	1969-70
Education and General	77.6	76.5	76.7	78.6	78.4	79.4	79.8	81.0
General Administration	11.3	12.1	12.2	12.3	12.3	13.5	a	a
Instruction & Departmental Research	43.4	42.1	43.3	42.3	41.6	42.0	41.5	41.8
Libraries	2.7	3.2	3.5	4.0	4.0	4.0	4.1	3.9
Plant Maintenance & Operation	12.8	11.9	10.9	9.5	9.3	9.0	9.2	9.2
Extension & Public Service	.8	1.2	1.1	1.2	1.5	1.6	3.2[b]	3.4[b]
Organized Activities of Educational Departments	3.8	3.2	2.7	4.3	3.5	2.7	1.4	2.3
Organized Research	2.6	2.8	3.1	2.9	2.8	2.8	2.4	2.6
Other[c]	--	--	--	2.1	3.5	3.8	18.0	17.8
Auxiliary Enterprises	19.0	21.2	21.0	19.4	18.5	17.3	16.9	15.5
Student Aid	3.4	2.4	2.3	1.9	3.0	3.4	3.3	3.4
Total Current Funds Expenditures	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	$492	$946	$1,207	$1,647	$2,069	$2,480	$2,920	$3,521

See footnotes at end of table.

APPENDIX TABLE 1.9

CURRENT FUNDS EXPENDITURES OF HIGHER EDUCATION INSTITUTIONS, BY LEVEL OF INSTITUTION AND CONTROL, SELECTED YEARS, 1959-60 TO 1969-70

(Percent Distribution of Expenditures by Purpose, Dollars in Millions)

All Private Four-Year Institutions

	1959-60	1961-62	1963-64	1965-66	1966-67	1967-68	1968-69	1969-70
Education and General	88.1	75.4	76.2	75.2	74.4	73.9	73.1	74.3
General Administration	12.4	14.8	14.7	14.8	15.9	16.4	a	a
Instruction & Departmental Research	24.2	28.4	26.8	26.9	28.7	28.8	29.4	29.5
Libraries	1.7	2.6	2.6	2.8	3.2	3.2	3.3	3.3
Plant Maintenance & Operation	7.4	8.3	7.9	7.4	7.7	7.8	8.2	8.1
Extension & Public Service	.5	.4	.5	.8	1.3	1.8	2.5[b]	2.5[b]
Organized Activities of Educational Departments	6.6	2.9	2.5	2.4	2.2	1.8	1.6	1.4
Organized Research	35.2	18.0	21.3	18.5	12.8	10.7	7.5	8.2
Other[c]	--	--	--	1.2	2.5	3.3	20.7	21.3
Auxiliary Enterprises	9.3	20.1	19.2	20.1	20.0	20.0	20.3	18.9
Student Aid	2.6	4.6	4.6	4.7	5.7	6.1	6.6	7.0
Total Current Funds Expenditures	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	$406	$1,601	$2,097	$2,580	$2,687	$2,927	$3,229	$3,673

See footnotes at end of table.

APPENDIX TABLE 1.10

CURRENT FUNDS EXPENDITURES OF HIGHER EDUCATION INSTITUTIONS, BY LEVEL OF INSTITUTION AND CONTROL, SELECTED YEARS, 1959-60 TO 1969-70

(Percent Distribution of Expenditures by Purpose, Dollars in Millions)

All Two-Year Institutions

	1959-60	1961-62	1963-64	1965-66	1966-67	1967-68	1968-69	1969-70
Education and General	83.2	82.3	82.9	86.8	86.8	87.9	89.1	89.2
General Administration	14.8	14.6	14.8	16.0	16.0	17.1	a	a
Instruction & Departmental Research	51.0	51.1	52.1	50.6	50.7	50.9	50.7	50.3
Libraries	2.3	2.5	2.8	3.5	3.8	3.7	3.5	3.6
Plant Maintenance & Operation	13.1	12.0	11.2	10.2	10.5	10.4	10.1	10.1
Extension & Public Service	1.3	1.3	1.2	2.6	2.1	1.9	1.9[b]	1.8[b]
Organized Activities of Educational Departments	.6	.5	.5	.4	.4	.5	.8	1.1
Organized Research	.2	.2	.3	.2	.1	.1	.2	.2
Other[c]	--	--	--	3.3	3.1	3.2	21.9	22.1
Auxiliary Enterprises	15.8	16.7	16.3	12.0	11.6	10.3	9.1	8.8
Student Aid	1.0	.9	.8	1.2	1.6	1.8	1.7	2.1
Total Current Funds Expenditures	100.0 $293	100.0 $372	100.0 $486	100.0 $776	100.0 $954	100.0 $1,225	100.0 $1,634	100.0 $1,967

See footnotes at end of table.

APPENDIX TABLE 1.11

CURRENT FUNDS EXPENDITURES OF HIGHER EDUCATION INSTITUTIONS, BY LEVEL OF INSTITUTION AND CONTROL, SELECTED YEARS, 1959-60 TO 1969-70

(Percent Distribution of Expenditures by Purpose, Dollars in Millions)

All Public Two-Year Institutions

	1959-60	1961-62	1963-64	1965-66	1966-67	1967-68	1968-69	1969-70
Education and General	87.2	85.8	86.5	90.6	90.1	90.8	91.8	91.2
General Administration	12.9	12.6	12.7	14.4	14.2	15.6	a	a
Instruction & Departmental Research	56.7	56.4	57.7	55.4	55.3	55.0	53.9	52.9
Libraries	2.3	2.7	2.9	3.6	4.0	3.8	3.6	3.6
Plant Maintenance & Operation	13.0	12.3	11.2	10.1	10.4	10.4	9.8	9.9
Extension & Public Service	1.5	1.3	1.4	3.1	2.5	2.1	2.3[b]	2.0[b]
Organized Activities of Educational Departments	.7	.6	.5	.4	1.0	.5	.8	1.0
Organized Research	.0+	--	--	--	--	.1	.1	.1
Other[c]	--	--	--	1.8	2.0	3.5	21.3	21.7
Auxiliary Enterprises	12.1	13.5	13.1	8.6	8.6	7.6	6.8	6.9
Student Aid	.7	.7	.4	.8	1.3	1.6	1.5	1.8
Total Current Funds Expenditures	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	$212	$272	$364	$616	$770	$1,024	$1,404	$1,739

See footnotes at end of table.

APPENDIX TABLE 1.12

CURRENT FUNDS EXPENDITURES OF HIGHER EDUCATION INSTITUTIONS, BY LEVEL OF INSTITUTION AND CONTROL, SELECTED YEARS, 1959-60 TO 1969-70

(Percent Distribution of Expenditures by Purpose, Dollars in Millions)

All Private Two-Year Institutions

	1959-60	1961-62	1963-64	1965-66	1966-67	1967-68	1968-69	1969-70
Education and General	72.9	72.7	72.2	72.4	73.1	72.8	72.9	72.4
General Administration	19.8	20.3	21.0	22.1	23.7	24.8	a	a
Instruction & Departmental Research	36.1	36.5	35.2	31.8	31.1	30.1	30.8	30.6
Libraries	2.0	2.1	2.4	3.0	3.2	3.3	3.2	3.1
Plant Maintenance & Operation	13.4	11.4	11.3	10.7	10.9	10.8	11.6	11.2
Extension & Public Service	.5	1.3	.6	.9	.8	1.0	.6[b]	.5[b]
Organized Activities of Educational Departments	.4	.4	.5	.3	.5	.7	.6	1.6
Organized Research	.6	.7	1.2	.7	.6	.4	.4	.4
Other[c]	--	--	--	2.9	2.4	1.8	25.8	25.0
Auxiliary Enterprises	25.3	25.5	25.8	25.1	24.3	24.0	23.7	23.3
Student Aid	1.8	1.7	2.1	2.5	2.6	3.2	3.4	4.2
Total Current Funds Expenditures	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	$81	$100	$121	$160	$184	$201	$230	$227

See footnotes at end of table.

APPENDIX TABLE 1.13

CURRENT FUNDS EXPENDITURES OF HIGHER EDUCATION INSTITUTIONS, BY LEVEL OF INSTITUTION AND CONTROL, SELECTED YEARS, 1959-60 TO 1969-70

(Percent Distribution of Expenditures by Purpose, Dollars in Millions)

Footnotes

a Included in "Other."

b Beginning in 1968-69, expenditures were requested separately for major public service programs, i.e., hospitals, federally funded research and development centers, etc. It is not possible to allocate these expenditures exactly to the categories reported for 1959-60 to 1967-68. It was assumed that federally funded research and development centers are in "Organized Research" and that other public service is included in the "Extension & Public Service" category.

c Includes sales and services of educational departments, other sponsored programs, and other educational and general expenditures, as reported for each year.

d Not reported separately.

Columns may not add due to rounding.

Source: Data for 1959-60 and 1965-66 to 1969-70 are from U. S. Department of Health, Education, and Welfare, Office of Education, Financial Statistics of Higher Education, appropriate years; for 1961-62 and 1963-64, Higher Education Finances, Selected Trend and Summary Data, Washington, D. C., Government Printing Office.

APPENDIX TABLE 2.1

CURRENT FUNDS REVENUES OF HIGHER EDUCATION INSTITUTIONS, BY LEVEL OF INSTITUTION AND CONTROL, SELECTED YEARS, 1959-60 TO 1969-70

(Per Cent Distribution of Revenues by Purpose, Dollars in Millions)

All Institutions

	1959-60	1961-62	1963-64	1965-66	1966-67	1967-68	1968-69	1969-70
Student Tuition & Fees	20.0	20.2	19.8	20.9	20.4	20.1	20.2	20.5
Government Appropriations	30.1	28.8	28.6	27.9	27.4	29.6	30.3	32.0
Federal	3.6	3.6	3.9	4.4	2.3	2.6	2.4	2.4
State	23.9	22.6	22.2	21.2	22.2	24.1	24.9	26.2
Local	2.6	2.6	2.5	2.3	2.9	2.9	3.0	3.4
Endowment Income	3.6	3.1	2.8	2.2	2.2	2.2	2.2	2.1
Private Gifts	6.6	6.0	5.8	3.7	3.6	3.3	3.2	2.9
Sponsored & Separately Budgeted Research[a]	b	b	b	19.3	17.5	16.6	15.0	14.0
Federal	14.3	17.1	18.7	15.9	15.1	14.1	11.3	10.4
State	c	c	c	2.0	.5	.5	.4	.4
Local	c	c	c	.1	--	--	.1	.1
Non-Governmental[d]	c	c	c	1.7	1.2	1.3	1.1	1.2
Other Sponsored Programs	c	c	c	c	4.3	4.1	4.4	4.7
Activities Related to Educational Departments	4.9	4.8	4.5	4.9	4.7	4.8	5.9	6.1
Other	1.5	1.4	1.5	2.3	1.6	1.8	1.5	1.4
Student Aid Grants	1.6	1.6	1.6	2.5	2.7	3.0	3.1	3.1
Federal	c	c	c	.7	1.3	1.6	1.6	1.6
State	c	c	c	.2	.3	.3	.4	.4
Local	c	c	c	--	--	--	---	---
Non-Governmental[d]	c	c	c	1.5	1.1	1.0	1.0	1.0
Auxiliary Enterprises	17.3	17.1	16.7	16.4	15.4	14.7	14.2	13.4
Total Current Funds Revenues	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	$5,813	$7,467	$9,591	$12,796	$14,633	$16,910	$18,974	$21,639

See footnotes at end of table.

APPENDIX TABLE 2.2

CURRENT FUNDS REVENUES OF HIGHER EDUCATION INSTITUTIONS, BY LEVEL OF INSTITUTION AND CONTROL, SELECTED YEARS, 1959-60 TO 1969-70

(Per Cent Distribution of Revenues by Purpose, Dollars in Millions)

All Public Institutions

	1959-60	1961-62	1963-64	1965-66	1966-67	1967-68	1968-69	1969-70
Student Tuition & Fees	10.1	10.4	10.9	11.7	11.6	11.6	11.8	12.6
Government Appropriations	51.4	49.4	48.6	45.4	44.7	46.6	47.2	48.4
Federal	5.6	5.4	5.6	5.7	3.3	3.5	3.2	3.1
State	41.3	39.6	38.7	35.7	36.8	38.6	39.2	40.3
Local	4.5	4.4	4.3	4.0	4.7	4.6	4.8	5.1
Endowment Income	.6	.5	.5	.3	.4	.3	.4	.4
Private Gifts	2.6	2.4	2.1	.9	.8	.6	.5	.4
Sponsored & Separately Budgeted Research[a]	b	b	b	16.5	14.2	13.6	12.2	11.3
Federal	11.1	13.2	14.1	12.1	11.3	10.8	8.8	8.0
State	c	c	c	2.7	.8	.8	.6	.6
Local	c	c	c	--	--	--	--	--
Non-Governmental[d]	c	c	c	1.7	1.0	1.1	.9	.9
Other Sponsored Programs	c	c	c	c	4.9	4.6	5.0	5.0
Activities Related to Educational Departments	5.1	4.9	4.5	5.0	4.8	4.9	6.1	5.8
Other	1.1	1.2	1.3	2.2	1.3	1.4	1.1	1.0
Student Aid Grants	1.3	1.3	1.2	1.9	2.4	2.5	2.5	2.6
Federal	c	c	c	.7	1.3	1.6	1.5	1.5
State	c	c	c	.4	.4	.4	.5	.5
Local	c	c	c	--	--	--	--	--
Non-Governmental[d]	c	c	c	.8	.6	.5	.6	.5
Auxiliary Enterprises	16.6	16.8	16.9	16.0	14.9	13.5	13.2	12.5
Total Current Funds Revenues	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	$3,277	$4,147	$5,369	$7,398	$8,622	$10,412	$11,852	$13,871

See footnotes at end of table.

APPENDIX TABLE 2.3

CURRENT FUNDS REVENUES OF HIGHER EDUCATION INSTITUTIONS, BY LEVEL OF INSTITUTION AND CONTROL, SELECTED YEARS, 1959-60 TO 1969-70

(Per Cent Distribution of Revenues by Purpose, Dollars in Millions)

All Private Institutions

	1959-60	1961-62	1963-64	1965-66	1966-67	1967-68	1968-69	1969-70
Student Tuition & Fees	32.7	32.4	31.2	33.5	33.0	33.6	34.1	34.7
Governmental Appropriations	2.8	3.0	3.3	3.8	2.5	2.3	2.0	2.6
Federal	1.2	1.3	1.8	2.6	1.0	1.2	1.1	1.2
State	1.4	1.5	1.3	1.2	1.3	.9	.9	1.1
Local	.2	.2	.2	--	.3	.2	--	.3
Endowment Income	7.4	6.3	5.7	4.7	4.9	5.1	5.1	5.0
Private Gifts	11.7	10.6	10.4	7.5	7.6	7.6	7.8	7.2
Sponsored & Separately Budgeted Research[a]	b	b	b	23.2	22.4	21.3	19.5	18.6
Federal	18.3	21.9	24.7	21.1	20.7	19.4	15.7	14.7
State	c	c	c	.3	.1	.1	.1	.1
Local	c	c	c	.1	--	.1	.3	.1
Non-Governmental[d]	c	c	c	1.6	1.4	1.6	1.5	1.7
Other Sponsored Programs	c	c	c	c	3.5	3.2	3.5	4.1
Activities Related to Educational Departments	4.8	4.7	4.5	4.7	4.7	4.7	5.8	6.5
Other	2.0	1.7	1.7	2.3	2.1	2.4	2.3	2.1
Student Aid Grants	2.1	2.0	2.0	3.2	3.2	3.7	3.9	4.0
Federal	c	c	c	.7	1.3	1.7	1.8	1.7
State	c	c	c	.1	.1	.2	.2	.3
Local	c	c	c	---	--	--	--	--
Non-Governmental[d]	c	c	c	2.5	1.8	1.9	1.9	2.0
Auxiliary Enterprises	18.2	17.4	16.7	16.9	16.0	16.1	15.9	15.1
Total Current Funds Revenues	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	$2,536	$3,319	$4,223	$5,399	$6,010	$6,498	$7,123	$7,768

See footnotes at end of table.

APPENDIX TABLE 2.4

CURRENT FUNDS REVENUES OF HIGHER EDUCATION INSTITUTIONS, BY LEVEL OF INSTITUTION AND CONTROL, SELECTED YEARS, 1959-60 TO 1969-70

(Per Cent Distribution of Revenues by Purpose, Dollars in Millions)

All Universities

	1959-60	1961-62	1963-64	1965-66	1966-67	1967-68	1968-69	1969-70
Student Tuition & Fees	16.0	15.8	15.4	16.1	15.5	15.5	15.6	16.3
Governmental Appropriations	31.3	30.6	30.3	27.5	25.5	26.3	26.5	27.8
Federal	3.7	3.9	4.5	5.1	2.2	2.0	1.7	2.0
State	26.8	25.8	24.9	22.1	22.7	24.1	24.6	25.5
Local	.8	.9	.9	.2	.7	.3	.1	.3
Endowment Income	3.4	3.0	2.7	2.1	2.2	2.2	2.2	2.2
Private Gifts	5.7	5.3	4.9	2.6	2.5	2.2	2.2	1.9
Sponsored & Separately Budgeted Research[a]	b	b	b	26.0	25.0	24.3	22.8	21.3
Federal	19.0	21.7	23.3	20.6	21.3	20.5	17.1	15.8
State	c	c	c	2.8	.7	.8	.6	.6
Local	c	c	c	.1	.1	.1	.2	.1
Non-Governmental[d]	c	c	c	2.5	1.7	1.9	1.7	1.8
Other Sponsored Programs	c	c	c	c	5.3	5.1	5.5	5.6
Activities Related to Educational Departments	6.8	6.4	6.3	6.3	6.5	6.7	8.6	8.8
Other	1.8	1.7	1.7	2.3	1.7	2.0	1.4	1.4
Student Aid Grants	1.5	1.5	1.5	2.7	2.9	3.1	3.1	3.1
Federal	c	c	c	1.0	1.6	1.9	1.8	1.7
Local	c	c	c	.2	.2	.2	.3	.3
State	c	c	c	--	--	--	--	--
Non-Governmental[d]	c	c	c	1.6	1.2	1.0	1.0	1.0
Auxiliary Enterprises	14.6	14.0	13.9	14.5	12.8	12.4	11.9	11.7
Total Current Funds Revenues	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	$3,445	$4,411	$5,617	$7,440	$8,559	$9,875	$10,992	$12,179

See footnotes at end of table.

APPENDIX TABLE 2.5

CURRENT FUNDS REVENUES OF HIGHER EDUCATION INSTITUTIONS, BY LEVEL OF INSTITUTION AND CONTROL, SELECTED YEARS, 1959-60 TO 1969-70

(Per Cent Distribution of Revenues by Purpose, Dollars in Millions)

All Public Universities

	1959-60	1961-62	1963-64	1965-66	1966-67	1967-68	1968-69	1969-70
Student Tuition & Fees	9.5	9.4	10.0	10.5	10.5	10.7	10.8	11.8
Governmental Appropriations	45.8	44.4	43.2	38.2	37.2	37.7	38.1	39.1
Federal	4.6	4.8	5.3	5.5	2.6	2.2	1.9	2.3
State	40.0	38.4	36.8	32.4	33.7	35.3	36.1	36.7
Local	1.2	1.2	1.1	.4	.8	.2	.2	.1
Endowment Income	.8	.7	.7	.4	.5	.5	.6	.6
Private Gifts	3.5	3.2	3.8	1.2	1.0	.7	.6	.6
Sponsored & Separately Budgeted Research[a]	b	b	b	23.6	20.9	20.4	18.6	17.7
Federal	15.7	18.4	19.6	17.4	16.6	16.1	13.4	12.7
State	c	c	c	3.8	1.0	1.1	.9	.7
Local	c	c	c	--	--	--	.1	--
Non-Governmental[d]	c	c	c	2.3	1.4	1.5	1.4	1.4
Other Sponsored Programs	c	c	c	c	5.5	5.5	6.1	6.0
Activities Related to Educational Departments	6.5	6.2	5.8	5.9	6.4	6.9	8.6	8.2
Other	1.4	1.4	1.5	2.3	1.4	1.6	1.1	1.0
Student Aid Grants	1.1	1.2	1.2	2.2	2.5	2.6	2.7	2.6
Federal	c	c	c	.9	1.5	1.7	1.7	1.6
State	c	c	c	.3	.2	.3	.4	.4
Local	c	c	c	--	.1	--	--	--
Non-Governmental[d]	c	c	c	.9	.7	.6	.7	.7
Auxiliary Enterprises	15.6	15.1	15.2	15.8	14.1	13.4	12.8	12.4
Total Current Funds Revenues	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	$2,235	$2,854	$3,683	$4,929	$5,559	$6,620	$7,375	$8,309

See footnotes at end of table.

APPENDIX TABLE 2.6

CURRENT FUNDS REVENUES OF HIGHER EDUCATION INSTITUTIONS, BY LEVEL OF INSTITUTION AND CONTROL, SELECTED YEARS, 1959-60 TO 1969-70

(Per Cent Distribution of Revenues by Purpose, Dollars in Millions)

All Private Universities

	1959-60	1961-62	1963-64	1965-66	1966-67	1967-68	1968-69	1969-70
Student Tuition & Fees	28.0	27.6	25.6	27.1	24.8	25.3	25.4	26.0
Governmental Appropriations	4.5	5.1	5.9	6.4	4.0	3.2	2.7	3.5
Federal	1.9	2.3	3.2	4.3	1.3	1.6	1.3	1.4
State	2.4	2.6	2.3	2.1	2.2	1.3	1.4	1.5
Local	.2	.2	.4	--	.5	.3	.0	.5
Endowment Income	8.1	7.2	6.5	5.3	5.5	5.7	5.6	5.6
Private Gifts	9.6	8.9	8.8	5.5	5.3	5.2	5.4	4.8
Sponsored & Separately Budgeted Research[a]	b	b	b	30.6	32.8	32.5	31.1	29.0
Federal	25.2	27.9	30.4	27.0	30.2	29.5	24.6	22.2
State	c	c	c	.6	.1	.2	.2	.2
Local	c	c	c	.1	.1	.1	.5	.2
Non-Governmental[d]	c	c	c	2.8	2.3	2.6	2.4	2.8
Other Sponsored Programs	c	c	c	c	4.9	4.3	4.5	4.8
Activities Related to Educational Departments	7.0	6.8	7.0	7.1	6.6	6.6	8.7	10.0
Other	2.6	2.3	2.0	2.5	2.3	2.7	2.2	2.2
Student Aid Grants	2.2	2.2	2.2	3.8	3.7	4.1	4.2	4.0
Federal	c	c	c	1.1	1.8	2.2	2.1	1.9
State	c	c	c	--	.1	.1	.1	.1
Local	c	c	c	--	--	--	--	--
Non-Governmental[d]	c	c	c	2.7	1.9	1.9	1.8	2.0
Auxiliary Enterprises	12.7	12.0	11.4	11.8	10.2	10.4	10.3	10.1
Total Current Funds Revenues	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	$1,210	$1,557	$1,933	$2,511	$3,000	$3,256	$3,618	$3,870

See footnotes at end of table.

APPENDIX TABLE 2.7

CURRENT FUNDS REVENUES OF HIGHER EDUCATION INSTITUTIONS, BY LEVEL OF INSTITUTION AND CONTROL, SELECTED YEARS, 1959-60 TO 1969-70

(Per Cent Distribution of Revenues by Purpose, Dollars in Millions)

All Other Four-Year Institutions

	1959-60	1961-62	1963-64	1965-66	1966-67	1967-68	1968-69	1969-70
Student Tuition & Fees	26.6	27.1	26.8	28.9	28.7	28.1	28.6	28.3
Governmental Appropriations	24.5	21.8	21.6	22.7	23.9	27.2	27.7	29.2
Federal	3.9	3.4	3.2	3.4	2.6	3.6	3.3	3.0
State	19.4	17.5	17.6	18.3	20.3	22.4	23.2	24.8
Local	1.2	.9	.8	.9	1.0	1.2	1.2	1.5
Endowment Income	4.3	3.6	3.2	2.7	2.6	2.5	2.6	2.4
Private Gifts	8.5	7.7	7.5	5.7	5.7	5.5	5.3	4.9
Sponsored & Separately Budgeted Research[a]	b	b	b	12.0	8.4	7.1	5.4	5.8
Federal	8.4	11.9	14.1	11.2	7.7	6.4	4.3	4.6
State	c	c	c	.2	.2	.2	.2	.2
Local	c	c	c	.1	--	--	--	--
Non-Governmental[d]	c	c	c	.6	.5	.5	.4	.4
Other Sponsored Programs	c	c	c	c	3.1	2.8	3.2	3.7
Activities Related to Educational Departments	2.7	2.7	2.2	3.4	2.7	2.4	2.7	3.1
Other	1.1	1.0	1.1	1.7	1.5	1.6	1.7	1.4
Student Aid Grants	2.0	1.9	1.8	2.3	2.7	3.1	3.3	3.5
Federal	c	c	c	.3	1.0	1.4	1.5	1.6
State	c	c	c	.3	.5	.5	.6	.7
Local	c	c	c	--	--	--	--	--
Non-Governmental[d]	c	c	c	1.6	1.3	1.2	1.2	1.2
Auxiliary Enterprises	21.8	22.1	21.5	20.6	20.6	19.8	19.4	17.7
Total Current Funds Revenues	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	$2,036	$2,649	$3,440	$4,480	$5,013	$5,663	$6,276	$7,367

See footnotes at end of table.

APPENDIX TABLE 2.8

CURRENT FUNDS REVENUES OF HIGHER EDUCATION INSTITUTIONS, BY LEVEL OF INSTITUTION AND CONTROL, SELECTED YEARS, 1959-60 TO 1969-70

(Per Cent Distribution of Revenues by Purpose, Dollars in Millions)

All Public Four-Year Institutions

	1959-60	1961-62	1963-64	1965-66	1966-67	1967-68	1968-69	1969-70
Student Tuition & Fees	11.9	12.9	13.0	14.4	13.6	13.1	13.5	13.8
Governmental Appropriations	60.3	56.5	56.2	55.0	53.1	56.8	56.3	56.5
Federal	9.5	8.4	7.7	6.9	5.2	6.8	6.0	4.9
State	48.1	46.0	46.4	45.8	45.7	47.5	47.8	48.7
Local	2.7	2.1	2.1	2.3	2.3	2.5	2.4	2.9
Endowment Income	.1	.1	.1	.1	.1	.1	.1	.1
Private Gifts	.7	.5	.6	.5	.5	.3	.2	.3
Sponsored & Separately Budgeted Research[a]	b	b	b	3.1	2.9	2.9	2.7	2.8
Federal	1.6	2.4	2.6	2.1	2.1	2.1	1.7	1.5
State	c	c	c	.5	.4	.3	.4	.3
Local	c	c	c	--	--	--	--	.1
Non-Governmental[d]	c	c	c	.5	.3	.4	.3	.4
Other Sponsored Programs	c	c	c	c	4.3	3.4	3.6	4.0
Activities Related to Educational Departments	2.5	2.3	1.9	4.4	2.3	1.7	2.6	3.2
Other	.6	.7	.8	1.0	.9	1.0	.9	.7
Student Aid Grants	2.0	1.8	1.7	1.6	2.5	2.8	2.7	2.9
Federal	c	c	c	.4	1.3	1.5	1.4	1.6
State	c	c	c	.6	.8	.8	.9	.9
Local	c	c	c	--	--	--	--	.1
Non-Governmental[d]	c	c	c	.5	.4	.4	.4	.4
Auxiliary Enterprises	20.6	22.8	23.0	20.0	19.6	17.9	17.3	15.7
Total Current Funds Revenues	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	$817	$995	$1,282	$1,772	$2,205	$2,642	$3,011	$3,701

See footnotes at end of table.

APPENDIX TABLE 2.9

CURRENT FUNDS REVENUES OF HIGHER EDUCATION INSTITUTIONS, BY LEVEL OF INSTITUTION AND CONTROL, SELECTED YEARS, 1959-60 TO 1969-70

(Per Cent Distribution of Revenues by Purpose, Dollars in Millions)

All Private Four-Year Institutions

	1959-60	1961-62	1963-64	1965-66	1966-67	1967-68	1968-69	1969-70
Student Tuition & Fees	36.2	35.7	35.0	38.4	40.5	41.1	42.5	43.0
Governmental Appropriations	1.1	1.2	1.2	1.6	1.0	1.3	1.3	1.7
Federal	.5	.5	.6	1.1	.6	.8	.8	.9
State	.5	.5	.5	.4	.4	.4	.5	.7
Local	.1	.2	.1	--	--	.1	.1	.1
Endowment Income	7.0	5.7	5.1	4.3	4.6	4.7	4.9	4.7
Private Gifts	13.6	12.1	11.6	9.1	9.8	9.9	10.1	9.5
Sponsored & Separately Budgeted Research[a]	b	b	b	17.9	12.8	10.8	7.9	8.9
Federal	12.9	17.6	21.0	17.1	12.1	10.1	6.8	7.6
State	c	c	c	.1	--	--	.1	.1
Local	c	c	c	.1	--	--	--	--
Non-Governmental[d]	c	c	c	.7	.6	.6	.6	.5
Other Sponsored Programs	c	c	c	c	2.2	2.3	2.8	3.4
Activities Related to Educational Departments	2.9	2.9	2.4	2.8	2.9	3.1	3.1	3.4
Other	1.5	1.3	1.4	2.2	2.0	2.1	2.4	3.2
Student Aid Grants	2.0	1.9	1.9	2.8	2.9	3.4	3.8	2.1
Federal	c	c	c	.3	.9	1.2	1.5	1.6
State	c	c	c	.1	.2	.3	.4	.5
Local	c	c	c	--	--	--	--	--
Non-Governmental[d]	c	c	c	2.4	1.8	1.9	1.9	2.0
Auxiliary Enterprises	22.6	21.6	20.5	21.0	21.4	21.4	21.3	19.7
Total Current Funds Revenues	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	$1,239	$1,654	$2,158	$2,708	$2,808	$3,022	$3,264	$3,666

See footnotes at end of table..

APPENDIX TABLE 2.10

CURRENT FUNDS REVENUES OF HIGHER EDUCATION INSTITUTIONS, BY LEVEL OF INSTITUTION AND CONTROL, SELECTED YEARS, 1959-60 TO 1969-70

(Per Cent Distribution of Revenues by Purpose, Dollars in Millions)

All Two-Year Institutions

	1959-60	1961-62	1963-64	1965-66	1966-67	1967-68	1968-69	1969-70
Student Tuition & Fees	21.0	22.2	21.2	21.1	20.9	19.6	18.7	17.4
Governmental Appropriations	54.0	53.9	55.5	57.6	58.9	63.1	64.1	66.0
Federal	1.1	.9	1.3	3.4	2.4	3.3	3.3	2.7
State	21.2	21.7	23.8	27.2	27.1	31.1	32.4	35.2
Local	31.7	31.3	30.4	27.0	29.3	28.6	28.4	28.1
Endowment Income	.8	.7	.6	.5	.4	.4	.3	.3
Private Gifts	4.2	3.6	3.6	2.3	2.4	1.9	1.7	1.3
Sponsored & Separately Budgeted Research[a]	b	b	b	.2	.2	.2	.1	.1
Federal	.2	.2	.3	.2	.1	.1	.1	.1
State	c	c	c	--	--	--	--	--
Local	c	c	c	--	--	0.0	0.0	--
Non-Governmental[d]	c	c	c	--	--	--	--	.1
Other Sponsored Programs	c	c	c	c	2.5	1.6	2.1	2.7
Activities Related to Educational Departments	.6	.5	.5	.6	.3	.4	.3	.4
Other	.9	.8	.9	4.4	1.4	1.4	1.4	1.2
Student Aid Grants	.6	.5	.4	1.0	1.2	1.4	1.5	1.8
Federal	c	c	c	.3	.4	.7	.8	1.0
State	c	c	c	.2	.3	.3	.3	.4
Local	c	c	c	--	--	--	--	--
Non-Governmental[d]	c	c	c	.5	.4	.4	.4	.4
Auxiliary Enterprises	17.6	17.6	17.0	12.3	11.7	10.2	9.6	8.8
Total Current Funds Revenues	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	$312	$407	$535	$877	$1,061	$1,372	$1,707	$2,093

See footnotes at end of table.

APPENDIX TABLE 2.11

CURRENT FUNDS REVENUES OF HIGHER EDUCATION INSTITUTIONS, BY LEVEL OF INSTITUTION AND CONTROL, SELECTED YEARS, 1959-60 TO 1969-70

(Per Cent Distribution of Revenues by Purpose, Dollars in Millions)

All Public Two-Year Institutions

	1959-60	1961-62	1963-64	1965-66	1966-67	1967-68	1968-69	1969-70
Student Tuition & Fees	10.6	11.5	11.8	13.3	13.6	13.2	13.2	13.2
Governmental Appropriations	74.6	73.3	73.4	72.1	72.4	74.8	74.4	73.9
Federal	1.4	1.1	1.7	4.0	2.8	3.6	3.7	2.8
State	29.4	29.5	31.5	34.1	33.4	37.1	37.7	39.5
Local	43.8	42.7	40.2	34.0	36.2	34.1	33.0	31.6
Endowment Income	.2	.1	.1	.2	.1	.1	.1	.1
Private Gifts	.4	.3	.4	.2	.3	.1	.2	.1
Sponsored & Separately Budgeted Research[a]	b	b	b	.1	--	.1	--	.1
Federal	--	--	--	--	--	--	--	--
State	c	c	c	--	--	--	--	--
Local	c	c	c	--	--	0.0	0.0	--
Non-Governmental[d]	c	c	c	--	--	--	--	--
Other Sponsored Programs	c	c	c	c	2.7	1.8	2.2	2.8
Activities Related to Educational Departments	.7	.5	.4	.5	.3	.4	.4	.4
Other	.8	.8	.8	4.9	1.4	1.3	1.3	1.2
Student Aid Grants	.5	.5	.3	.9	1.1	1.3	1.4	1.7
Federal	c	c	c	.2	.4	.7	.8	.9
State	c	c	c	.3	.3	.3	.3	.4
Local	c	c	c	--	--	--	--	--
Non-Governmental[d]	c	c	c	.4	.3	.3	.3	.3
Auxiliary Enterprises	12.2	12.9	12.7	7.9	8.0	7.0	6.7	6.5
Total Current Funds Revenues	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	$225	$299	$404	$796	$859	$1,151	$1,466	$1,861

See footnotes at end of table.

APPENDIX TABLE 2.12

CURRENT FUNDS REVENUES OF HIGHER EDUCATION INSTITUTIONS, BY LEVEL OF INSTITUTION AND CONTROL, SELECTED YEARS, 1959-60 TO 1969-70

(Per Cent Distribution of Revenues by Purpose, Dollars in Millions)

All Private Two-Year Institutions

	1959-60	1961-62	1963-64	1965-66	1966-67	1967-68	1968-69	1969-70
Student Tuition & Fees	48.1	51.9	49.9	51.6	52.3	52.9	51.9	50.3
Governmental Appropriations	.4	.5	.4	1.3	1.3	2.1	1.5	2.4
Federal	.3	.3	.2	1.0	.8	1.8	1.1	1.6
State	---	.1	.2	.3	.2	.2	.2	.6
Local	.1	.1	--	0.0	.3	.1	.2	.3
Endowment Income	2.6	2.2	2.2	1.9	1.7	1.6	1.6	1.6
Private Gifts	14.1	12.4	13.5	10.7	11.4	10.9	11.3	11.6
Sponsored & Separately Budgeted Research[a]	b	b	b	.7	1.0	.7	.5	.5
Federal	.8	.8	1.3	.7	.8	.6	.3	.3
State	c	c	c	0.0	0.0	0.0	--	--
Local	c	c	c	0.0	0.0	0.0	0.0	--
Non-Governmental[d]	c	c	c	--	.2	--	--	.1
Other Sponsored Programs	c	c	c	c	1.4	.7	1.6	2.0
Activities Related to Educational Departments	.6	.5	.6	.5	.3	.4	.5	.5
Other	1.2	.8	1.1	2.7	1.7	1.7	1.8	1.2
Student Aid Grants	.6	.5	.6	1.5	1.4	2.1	2.1	3.0
Federal	c	c	c	.3	.4	1.0	1.0	1.7
State	c	c	c	--	.1	.2	.2	.4
Local	c	c	c	0.0	--	0.0	--	--
Non-Governmental[d]	c	c	c	1.2	.9	1.[illegible]	.8	1.0
Auxiliary Enterprises	31.5	30.4	30.4	29.2	27.6	26.[illegible]	27.6	26.8
Total Current Funds Revenues	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	$87	$108	$131	$179	$203	$221	$241	$232

See footnotes at end of table.

APPENDIX TABLE 2.13

CURRENT FUNDS REVENUES OF HIGHER EDUCATION INSTITUTIONS, BY LEVEL OF INSTITUTION AND CONTROL, SELECTED YEARS, 1959-60 TO 1969-70

(Per Cent Distribution of Revenues by Purpose, Dollars in Millions)

Footnotes

a Includes other separately budgeted research with source of funds not specified.

b Only federally funded research reported separately.

c Not reported separately.

d Includes private gifts and grants, endowment income, foundation funds, and other non-governmental funds.

-- Indicates less than .05.

Columns may not add due to rounding.

Source: Data for 1959-60 and 1965-66 to 1969-70 are from U. S. Department of Health, Education, and Welfare, Office of Education, Financial Statistics of Higher Education, appropriate years; for 1961-62 and 1963-64, Higher Education Finances, Selected Trend and Summary Data, Washington, D. C. Government Printing Office.

APPENDIX TABLE 3.1

CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION
IN INSTITUTIONS OF HIGHER EDUCATION, 1965-66 TO 1969-70

(Millions of Current Dollars)

All Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	$2,677	$2,982	$ 3,394	$ 3,830	$ 4,438
Government Appropriations	3,564	4,009	5,004	5,741	6,915
Endowments	278	328	364	413	447
Private Gifts	472	528	553	606	617
Other	734	1,124	1,150	843	858
Non-Governmental Student Aid	193	163	174	198	227
Total	$7,918	$9,134	$10,639	$11,631	$13,502
Expenditures					
General Administration	$1,260	$1,456	$ 1,750	$ 2,013	$ 2,328
Instruction and Departmental Research	3,781	4,385	5,167	5,973	6,923
Libraries	348	418	496	574	656
Plant Maintenance and Operation	848	973	1,132	1,343	1,549
Extension and Public Service	443	485	602	473	531
Organized Activities of Educational Departments	304	273	239	115	163
Other	154	221	243	280	323
Non-Governmental Student Aid	309	352	389	442	553
Total	$7,447	$8,563	$10,018	$11,213	$13,026

APPENDIX TABLE 3.2

CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION
IN INSTITUTIONS OF HIGHER EDUCATION, 1965-66 TO 1969-70

(Millions of Current Dollars)

All Universities

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	$1,198	$1,324	$1,535	$1,718	$1,989
Government Appropriations	2,043	2,184	2,599	2,909	3,382
Endowments	154	191	216	245	265
Private Gifts	196	218	219	242	231
Other	427	705	762	525	549
Non-Governmental Student Aid	115	98	102	117	132
Total	$4,133	$4,720	$5,433	$5,756	$6,548
Expenditures					
General Administration	$ 551	$ 622	$ 725	$ 787	$ 909
Instruction and Departmental Research	1,998	2,269	2,660	2,986	3,375
Libraries	183	214	256	289	326
Plant Maintenance and Operation	419	472	553	646	731
Extension and Public Service	382	398	487	380	434
Organized Activities of Educational Departments	223	198	177	71	98
Other	81	134	129	140	162
Non-Governmental Student Aid	178	205	226	257	334
Total	$4,015	$4,512	$5,213	$5,556	$6,369

APPENDIX TABLE 3.3

CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION IN INSTITUTIONS OF POST-SECONDARY EDUCATION, 1965-66 TO 1969-70

(Millions of Current Dollars)

All Other Four-Year Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	$1,294	$1,436	$1,589	$1,793	$2,086
Government Appropriations	1,017	1,200	1,540	1,738	2,152
Endowments	120	132	143	162	177
Private Gifts	254	285	309	335	358
Other	251	372	342	264	254
Non-Governmental Student Aid	74	60	66	75	88
Total	$3,010	$3,485	$3,989	$4,367	$5,115
Expenditures					
General Administration	$ 585	$ 682	$ 815	$ 934	$1,068
Instruction and Departmental Research	1,391	1,633	1,884	2,159	2,557
Libraries	138	167	194	227	261
Plant Maintenance and Operation	349	401	451	533	620
Extension and Public Service	40	67	92	63	64
Organized Activities of Educational Departments	77	73	58	34	49
Other	51	66	88	101	116
Non-Governmental Student Aid	126	140	153	177	208
Total	$2,757	$3,229	$3,735	$4,228	$4,943

APPENDIX TABLE 3.4

CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION IN INSTITUTIONS OF POST-SECONDARY EDUCATION, 1965-66 TO 1969-70

(Millions of Current Dollars)

All Two-Year Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	$185	$222	$ 269	$ 319	$ 363
Government Appropriations	505	624	865	1,094	1,381
Endowments	5	4	5	6	6
Private Gifts	20	25	25	29	28
Other	51	49	45	53	53
Non-Governmental Student Aid	5	5	5	6	8
Total	$771	$929	$1,214	$1,507	$1,839
Expenditures					
General Administration	$124	$153	$ 210	$ 294	$ 348
Instruction and Departmental Research	393	483	623	828	990
Libraries	27	37	46	58	70
Plant Maintenance and Operation	79	100	128	165	198
Extension and Public Service	20	21	23	30	33
Organized Activities of Educational Departments	0	2	5	10	17
Other	21	20	27	38	47
Non-Governmental Student Aid	5	7	9	9	11
Total	$669	$823	$1,071	$1,432	$1,714

APPENDIX TABLE 3.5

CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION IN INSTITUTIONS OF POST-SECONDARY EDUCATION, 1965-66 TO 1969-70

(Millions of Current Dollars)

All Public Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	$ 866	$ 997	$1,209	$1,399	$1,741
Government Appropriations	3,359	3,858	4,856	5,596	6,712
Endowments	24	31	36	49	57
Private Gifts	69	71	59	54	58
Other	503	647	662	403	426
Non-Governmental Student Aid	60	56	55	64	74
Total	$4,881	$5,660	$6,877	$7,565	$9,068
Expenditures					
General Administration	$ 615	$ 740	$ 954	$1,129	$1,331
Instruction and Departmental Research	2,377	2,820	3,458	4,039	4,764
Libraries	201	246	308	361	418
Plant Maintenance and Operation	491	585	702	847	1,006
Extension and Public Service	396	419	493	421	485
Organized Activities of Educational Departments	211	205	193	100	136
Other	110	144	163	193	223
Non-Governmental Student Aid	76	104	123	138	183
Total	$4,477	$5,263	$6,394	$7,228	$8,546

APPENDIX TABLE 3.6

CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION IN INSTITUTIONS OF POST-SECONDARY EDUCATION, 1965-66 TO 1969-70

(Millions of Current Dollars)

Public Universities

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	$ 519	$ 581	$ 710	$ 799	$ 982
Government Appropriations	1,883	2,065	2,495	2,812	3,247
Endowments	21	28	31	43	50
Private Gifts	58	58	49	46	46
Other	368	457	505	291	297
Non-Governmental Student Aid	47	43	41	48	54
Total	$2,896	$3,232	$3,831	$4,039	$4,676
Expenditures					
General Administration	$ 324	$ 376	$ 459	$ 497	$ 583
Instruction and Departmental Research	1,339	1,533	1,854	2,071	2,371
Libraries	114	133	169	190	216
Plant Maintenance and Operation	272	312	374	440	510
Extension and Public Service	358[b]	369	431	358	411
Organized Activities of Educational Departments	164	156	146	71	83
Other	68	97	104	113	132
Non-Governmental Student Aid	60	83	98	110	149
Total	$2,699	$3,059	$3,635	$3,850	$4,455

APPENDIX TABLE 3.7

CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION IN INSTITUTIONS OF POST-SECONDARY EDUCATION, 1965-66 TO 1969-70

(Millions of Current Dollars)

Public Other Four-Year Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	$ 254	$ 300	$ 347	$ 406	$ 512
Government Appropriations	974	1,172	1,501	1,694	2,091
Endowments	2	2	3	4	4
Private Gifts	9	11	8	6	11
Other	97	159	127	85	92
Non-Governmental Student Aid	10	10	10	12	14
Total	$1,346	$1,654	$1,996	$2,207	$2,724
Expenditures					
General Administration	$ 202	$ 255	$ 335	$ 396	$ 451
Instruction and Departmental Research	696	861	1,041	1,211	1,472
Libraries	65	82	100	120	139
Plant Maintenance and Operation	157	193	222	269	323
Extension and Public Service	19[a]	31	40	34	43
Organized Activities of Educational Departments	45	47	43	19	39
Other	24	30	35	41	47
Non-Governmental Student Aid	14	18	20	24	27
Total	$1,222	$1,517	$1,836	$2,114	$2,541

See footnotes at end of table.

APPENDIX TABLE 3.8

CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION IN INSTITUTIONS OF POST-SECONDARY EDUCATION, 1965-66 TO 1969-70

(Millions of Current Dollars)

Public Two-Year Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	$ 93	$116	$ 152	$ 194	$ 247
Government Appropriations	502	622	860	1,090	1,375
Endowments	1	1	2	4	3
Private Gifts	1	2	1	2	1
Other	35	32	31	32	42
Non-Governmental Student Aid	2	3	3	2	6
Total	$634	$776	$1,049	$1,324	$1,674
Expenditures					
General Administration	$ 89	$109	$ 160	$ 239	$ 297
Instruction and Departmental Research	342	426	563	757	920
Libraries	22	31	39	51	63
Plant Maintenance and Operation	62	80	106	138	173
Extension and Public Service	19[a]	19	21	29	32
Organized Activities of Educational Departments	1	1	3	10	14
Other	18	17	24	36	44
Non-Governmental Student Aid	2	3	5	4	6
Total	$555	$686	$ 921	$1,264	$1,549

See footnotes at end of table.

APPENDIX TABLE 3.9

CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION IN INSTITUTIONS OF POST-SECONDARY EDUCATION, 1965-66 TO 1969-70

(Millions of Current Dollars)

All Private Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	$1,811	$1,985	$2,184	$2,431	$2,698
Government Appropriations	206	150	148	145	202
Endowments	255	297	328	365	390
Private Gifts	402	457	495	552	559
Other	231	478	488	416	433
Non-Governmental Student Aid	133	107	119	134	152
Total	$3,038	$3,474	$3,762	$4,043	$4,434
Expenditures					
General Administration	$ 645	$ 717	$ 796	$ 882	$ 994
Instruction and Departmental Research	1,405	1,565	1,709	1,934	2,159
Libraries	147	172	188	213	238
Plant Maintenance and Operation	356	388	430	497	543
Extension and Public Service	46	66	110	51	45
Organized Activities of Educational Departments	93	68	46	15	27
Other	43	77	81	90	102
Non-Governmental Student Aid	233	248	265	305	369
Total	$2,968	$3,301	$3,625	$3,987	$4,477

APPENDIX TABLE 3.10

CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION IN INSTITUTIONS OF POST-SECONDARY EDUCATION. 1965-66 TO 1969-70

(Millions of Current Dollars)

Private Universities

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	$ 679	$ 743	$ 825	$ 919	$1,007
Government Appropriations	160	119	104	98	135
Endowments	134	163	184	203	215
Private Gifts	138	160	170	197	184
Other	61	247	256	230	255
Non-Governmental Student Aid	67	55	61	69	77
Total	$1,239	$1,487	$1,600	$1,716	$1,873
Expenditures					
General Administration	$ 227	$ 246	$ 266	$ 290	$ 326
Instruction and Departmental Research	659	736	806	915	1,004
Libraries	69	81	87	99	109
Plant Maintenance and Operation	147	160	179	206	221
Extension and Public Service	24[a]	29	57	21	23
Organized Activities of Educational Departments	59	41	31	0	15
Other	13	38	25	27	30
Non-Governmental Student Aid	118	122	128	147	184
Total	$1,316	$1,453	$1,579	$1,705	$1,912

See footnotes at end of table.

APPENDIX TABLE 3.11

CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION IN INSTITUTIONS OF POST-SECONDARY EDUCATION, 1965-66 TO 1969-70

(Millions of Current Dollars)

Private Other Four-Year Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	$1,039	$1,137	$1,242	$1,387	$1,574
Government Appropriations	43	29	39	44	61
Endowments	118	130	140	158	171
Private Gifts	245	274	300	328	347
Other	154	213	215	168	163
Non-Governmental Student Aid	64	50	56	63	73
Total	$1,663	$1,833	$1,992	$2,148	$2,389
Expenditures					
General Administration	$ 383	$ 427	$ 480	$ 538	$ 617
Instruction and Departmental Research	695	772	843	948	1,085
Libraries	73	85	94	107	122
Plant Maintenance and Operation	192	208	229	264	297
Extension and Public Service	21[a]	35	52	29	21
Organized Activities of Educational Departments	32	26	14	14	9
Other	27	36	53	60	69
Non-Governmental Student Aid	112	122	133	153	181
Total	$1,535	$1,711	$1,898	$2,113	$2,401

See footnotes at end of table.

APPENDIX TABLE 3.12

CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION IN INSTITUTIONS OF POST-SECONDARY EDUCATION, 1965-66 TO 1969-70

(Millions of Current Dollars)

Private Two-Year Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	$ 93	$106	$117	$125	$117
Government Appropriations	2	3	5	4	6
Endowments	3	3	3	4	4
Private Gifts	19	23	24	27	27
Other	14	18	18	19	13
Non-Governmental Student Aid	2	2	2	2	2
Total	$133	$155	$169	$181	$169
Expenditures					
General Administration	$ 35	$ 44	$ 50	$ 54	$ 51
Instruction and Departmental Research	51	57	60	71	70
Libraries	5	6	7	7	7
Plant Maintenance and Operation	17	20	22	27	26
Extension and Public Service	1[a]	1	2	1	1
Organized Activities of Educational Departments	b	1	1	1	3
Other	3	3	3	3	3
Non-Governmental Student Aid	3	4	4	5	5
Total	$115	$136	$149	$169	$166

See footnotes at end of table.

APPENDIX TABLE 3.13

CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION IN INSTITUTIONS OF POST-SECONDARY EDUCATION, 1965-66 TO 1969-70

(Millions of Current Dollars)

Footnotes

a Includes all public service projects.

b Less than .5 million dollars.

Note: Other Revenues include net revenues of activities such as organized research, auxiliary enterprises, etc. See text, p. 15. In 1966-67 to 1969-70, expenditures for extension and public service are net of reported public service revenues. General Administration expenditures for 1968-69 and 1969-70 were reported with other expenditures and have been estimated.

Source: U. S. Department of Health, Education, and Welfare, Office of Education, Financial Statistics of Higher Education, annual publication, 1965-66 to 1968-69, Washington, D. C., Government Printing Office.

APPENDIX TABLE 4.1

DISTRIBUTION OF CURRENT FUND REVENUES AND EXPENDITURES FOR INSTRUCTION IN INSTITUTIONS OF POST-SECONDARY EDUCATION BY CONTROL AND LEVEL OF INSTITUTION, 1965-66 TO 1969-70

(Per Cent of Total)

All Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	33.8	32.6	31.9	32.9	32.9
Government Appropriations	45.0	43.9	47.0	49.4	51.2
Endowments	3.5	3.6	3.4	3.6	3.3
Private Gifts	6.0	5.8	5.2	5.2	4.6
Other	9.3	12.3	10.8	7.2	6.4
Non-Governmental Student Aid	2.4	1.8	1.6	1.7	1.7
Total	100.0	100.0	100.0	100.0	100.0
Millions of Dollars	$7,918	$9,134	$10,639	$11,631	$13,502
Expenditures					
General Administration	16.9	17.0	17.5	18.0	17.9
Instruction and Departmental Research	50.8	51.2	51.6	53.3	53.1
Libraries	4.7	4.9	5.0	5.1	5.0
Plant Maintenance and Operation	11.4	11.4	11.3	12.0	11.9
Extension and Public Service	5.9	5.7	6.0	4.2	4.1
Organized Activities of Educational Departments	4.1	3.2	2.4	1.0	1.3
Other	2.1	2.6	2.4	2.5	2.5
Non-Governmental Student Aid	4.1	4.1	3.9	3.9	4.2
Total	100.0	100.0	100.0	100.0	100.0
Millions of Dollars	$7,447	$8,563	$10,018	$11,213	$13,026

APPENDIX TABLE 4.2

DISTRIBUTION OF CURRENT FUND REVENUES AND EXPENDITURES FOR INSTRUCTION IN INSTITUTIONS OF POST-SECONDARY EDUCATION BY CONTROL AND LEVEL OF INSTITUTION, 1965-66 TO 1969-70

(Per Cent of Total)

All Universities

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	29.0	28.1	28.3	29.8	30.4
Government Appropriations	49.4	46.3	47.8	50.5	51.6
Endowments	3.7	4.0	4.0	4.3	4.0
Private Gifts	4.7	4.6	4.0	4.2	3.5
Other	10.3	14.9	14.0	9.1	8.4
Non-Governmental Student Aid	2.8	2.1	1.9	2.0	2.0
Total	100.0	100.0	100.0	100.0	100.0
Millions of Dollars	$4,133	$4,720	$5,433	$5,756	$6,548
Expenditures					
General Administration	13.7	13.8	13.9	14.2	14.3
Instruction and Departmental Research	49.8	50.3	51.0	53.7	53.0
Libraries	4.6	4.7	4.9	5.2	5.1
Plant Maintenance and Operation	10.4	10.5	10.6	11.6	11.5
Extension and Public Service	9.5	8.8	9.3	6.8	6.8
Organized Activities of Educational Departments	5.6	4.4	3.4	1.3	1.5
Other	2.0	3.0	2.5	2.5	2.5
Non-Governmental Student Aid	4.4	4.5	4.3	4.6	5.2
Total	100.0	100.0	100.0	100.0	100.0
Millions of Dollars	$4,015	$4,512	$5.213	$5,556	$6,369

APPENDIX TABLE 4.3

DISTRIBUTION OF CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION IN INSTITUTIONS OF POST-SECONDARY EDUCATION BY CONTROL AND LEVEL OF INSTITUTION, 1965-66 TO 1969-70

(Per Cent of Total)

All Other Four-Year Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	43.0	41.2	39.8	41.1	40.8
Government Appropriations	33.8	34.4	38.6	39.8	42.1
Endowments	4.0	3.8	3.6	3.7	3.5
Private Gifts	8.4	8.2	7.7	7.7	7.0
Other	8.3	10.7	8.6	6.0	5.0
Non-Governmental Student Aid	2.5	1.7	1.7	1.7	1.7
Total	100.0	100.0	100.0	100.0	100.0
Millions of Dollars	$3,010	$3,485	$3,989	$4,367	$5,115
Expenditures					
General Administration	21.2	21.1	21.8	22.1	21.6
Instruction and Departmental Research	50.5	50.6	50.4	51.1	51.7
Libraries	5.0	5.2	5.2	5.4	5.3
Plant Maintenance and Operation	12.7	12.4	12.1	12.6	12.5
Extension and Public Service	1.5	2.1	2.5	1.5	1.3
Organized Activities of Educational Departments	2.8	2.3	1.6	.8	1.0
Other	1.8	2.0	2.4	2.4	2.3
Non-Governmental Student Aid	4.6	4.3	4.1	4.2	4.2
Total	100.0	100.0	100.0	100.0	100.0
Millions of Dollars	$2,757	$3,229	$3,735	$4,228	$4,943

APPENDIX TABLE 4.4

DISTRIBUTION OF CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION IN INSTITUTIONS OF POST-SECONDARY EDUCATION BY CONTROL AND LEVEL OF INSTITUTION, 1965-66 TO 1969-70

(Per Cent of Total)

All Two-Year Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	24.0	23.9	22.2	21.2	19.7
Government Appropriations	65.5	67.2	71.3	72.6	75.1
Endowments	.6	.4	.4	.4	.3
Private Gifts	2.6	2.7	2.1	1.9	1.5
Other	6.6	5.3	3.7	3.5	2.9
Non-Governmental Student Aid	.6	.5	.4	.4	.4
Total	100.0	100.0	100.0	100.0	100.0
Millions of Dollars	$771	$929	$1,214	$1,507	$1,839
Expenditures					
General Administration	18.5	18.6	19.6	20.5	20.3
Instruction and Departmental Research	58.7	58.7	58.2	57.8	57.8
Libraries	4.0	4.5	4.3	4.1	4.1
Plant Maintenance and Operation	11.8	12.2	12.0	11.5	11.6
Extension and Public Service	3.0	2.6	2.1	2.1	1.9
Organized Activities of Educational Departments	0.0	.2	.5	.7	1.0
Other	3.1	2.4	2.5	2.7	2.7
Non-Governmental Student Aid	.7	.9	.8	.6	.6
Total	100.0	100.0	100.0	100.0	100.0
Millions of Dollars	$669	$823	$1,071	$1,432	$1,714

APPENDIX TABLE 4.5

DISTRIBUTION OF CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION IN INSTITUTIONS OF POST-SECONDARY EDUCATION BY CONTROL AND LEVEL OF INSTITUTION, 1965-66 TO 1969-70

(Per Cent of Total)

All Public Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	17.7	17.6	17.6	18.5	19.2
Government Appropriations	68.8	68.2	70.6	74.0	74.0
Endowments	.5	.5	.5	.6	.6
Private Gifts	1.4	1.3	.9	.7	.6
Other	10.3	11.4	9.6	5.3	4.7
Non-Governmental Student Aid	1.2	1.0	.8	.8	.8
Total	100.0	100.0	100.0	100.0	100.0
Millions of Dollars	$4,881	$5,660	$6,877	$7,565	$9,068
Expenditures					
General Administration	13.7	14.1	14.9	15.6	15.6
Instruction and Departmental Research	53.1	53.6	54.1	55.9	53.7
Libraries	4.5	4.7	4.8	5.0	4.9
Plant Maintenance and Operation	11.0	11.1	11.0	11.7	11.8
Extension and Public Service	8.8	8.0	7.7	5.8	5.7
Organized Activities of Educational Departments	4.7	3.9	3.0	1.4	1.6
Other	2.5	2.7	2.5	2.7	2.6
Non-Governmental Student Aid	1.7	2.0	1.9	1.9	2.1
Total	100.0	100.0	100.0	100.0	100.0
Millions of Dollars	$4,477	$5,263	$6,394	$7,228	$8,546

APPENDIX TABLE 4.6

DISTRIBUTION OF CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION IN INSTITUTIONS OF POST-SECONDARY EDUCATION BY CONTROL AND LEVEL OF INSTITUTION, 1965-66 TO 1969-70

(Per Cent of Total)

Public Universities

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	17.9	18.0	18.5	19.8	21.0
Government Appropriations	65.0	63.9	65.1	69.6	69.4
Endowments	.7	.9	.8	1.1	1.1
Private Gifts	2.0	1.8	1.3	1.1	1.0
Other	12.7	14.1	13.2	7.2	6.4
Non-Governmental Student Aid	1.6	1.3	1.1	1.2	1.2
Total	100.0	100.0	100.0	100.0	100.0
Millions of Dollars	$2,896	$3,232	$3,831	$4,039	$4,676
Expenditures					
General Administration	12.0	12.3	12.6	12.9	13.1
Instruction and Departmental Research	49.6	50.1	51.0	53.8	53.2
Libraries	4.2	4.3	4.6	4.9	4.8
Plant Maintenance and Operation	10.1	10.2	10.3	11.4	11.4
Extension and Public Service	13.3[a]	12.1	11.9	9.3	9.2
Organized Activities of Educational Departments	6.1	5.1	4.0	1.8	1.9
Other	2.5	3.2	2.9	2.9	3.0
Non-Governmental Student Aid	2.2	2.7	2.7	2.9	3.3
Total	100.0	100.0	100.0	100.0	100.0
Millions of Dollars	$2,699	$3,059	$3,635	$3,850	$4,455

See footnotes at end of table.

APPENDIX TABLE 4.7

DISTRIBUTION OF CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION IN INSTITUTIONS OF POST-SECONDARY EDUCATION BY CONTROL AND LEVEL OF INSTITUTION, 1965-66 TO 1969-70

(Per Cent of Total)

Public Other Four-Year Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	18.9	18.1	17.4	18.4	18.8
Government Appropriations	72.4	70.9	75.2	76.8	76.8
Endowments	.1	.1	.2	.2	.1
Private Gifts	.7	.7	.4	.3	.4
Other	7.2	9.6	6.4	3.9	3.4
Non-Governmental Student Aid	.7	.6	.5	.5	.5
Total	100.0	100.0	100.0	100.0	100.0
Millions of Dollars	$1,346	$1,654	$1,996	$2,207	$2,724
Expenditures					
General Administration	16.5	16.8	18.2	18.7	17.7
Instruction and Departmental Research	57.0	56.8	56.7	57.3	57.9
Libraries	5.3	5.4	5.4	5.7	5.5
Plant Maintenance and Operation	12.8	12.7	12.1	12.7	12.7
Extension and Public Service	1.6[a]	2.0	2.2	1.6	1.7
Organized Activities of Educational Departments	3.7	3.1	2.3	.9	1.5
Other	2.0	2.0	1.9	1.9	1.8
Non-Governmental Student Aid	1.1	1.2	1.1	1.1	1.1
Total	100.0	100.0	100.0	100.0	100.0
Millions of Dollars	$1,222	$1,517	$1,836	$2,114	$2,541

See footnotes at end of table.

APPENDIX TABLE 4.8

DISTRIBUTION OF CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION IN INSTITUTIONS OF POST-SECONDARY EDUCATION BY CONTROL AND LEVEL OF INSTITUTION, 1965-66 TO 1969-70

(Per Cent of Total)

Public Two-Year Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	14.7	14.9	14.5	14.7	14.8
Government Appropriations	79.2	80.2	82.0	82.3	82.1
Endowments	.2	.1	.2	.3	.2
Private Gifts	.2	.3	.1	.2	.1
Other	5.5	4.1	3.0	2.4	2.5
Non-Governmental Student Aid	.3	.4	.3	.2	.4
Total	100.0	100.0	100.0	100.0	100.0
Millions of Dollars	$634	$776	$1,049	$1,324	$1,674
Expenditures					
General Administration	16.0	15.9	17.4	18.9	19.2
Instruction and Departmental Research	61.6	62.1	61.1	59.9	59.4
Libraries	4.0	4.5	4.2	4.0	4.1
Plant Maintenance and Operation	11.2	11.7	11.5	10.9	11.2
Extension and Public Service	3.4[a]	2.3	2.3	2.3	2.1
Organized Activities of Educational Departments	.2	.1	.3	.8	.9
Other	3.2	2.5	2.6	2.8	2.8
Non-Governmental Student Aid	.4	.4	.5	.3	.4
Total	100.0	100.0	100.0	100.0	100.0
Millions of Dollars	$555	$686	$921	$1,264	$1,549

See footnotes at end of table.

APPENDIX TABLE 4.9

DISTRIBUTION OF CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION IN INSTITUTIONS OF POST-SECONDARY EDUCATION BY CONTROL AND LEVEL OF INSTITUTION, 1965-66 TO 1969-70

(Per Cent of Total)

All Private Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	59.6	57.1	58.1	60.1	60.8
Government Appropriations	6.8	4.3	3.9	3.6	4.6
Endowments	8.4	8.5	8.7	9.0	8.8
Private Gifts	13.2	13.2	13.2	13.7	12.6
Other	7.6	13.8	13.0	10.3	9.8
Non-Governmental Student Aid	4.4	3.1	3.2	3.3	3.4
Total	100.0	100.0	100.0	100.0	100.0
Millions of Dollars	$3,038	$3,474	$3,762	$4,043	$4,434
Expenditures					
General Administration	21.7	21.7	22.0	22.1	22.2
Instruction and Departmental Research	47.3	47.4	47.1	48.5	48.2
Libraries	5.0	5.2	5.2	5.3	5.3
Plant Maintenance and Operation	12.0	11.8	11.9	12.5	12.1
Extension and Public Service	1.5	2.0	3.0	1.3	1.0
Organized Activities of Educational Departments	3.1	2.1	1.3	.4	.6
Other	1.4	2.3	2.2	2.3	2.3
Non-Governmental Student Aid	7.9	7.5	7.3	7.6	8.2
Total	100.0	100.0	100.0	100.0	100.0
Millions of Dollars	$2,968	$3,301	$3,625	$3,987	$4,477

APPENDIX TABLE 4.10

DISTRIBUTION OF CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION IN INSTITUTIONS OF POST-SECONDARY EDUCATION BY CONTROL AND LEVEL OF INSTITUTION, 1965-66 TO 1969-70

(Per Cent of Total)

Private Universities

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	54.8	50.0	51.6	53.6	53.8
Government Appropriations	12.9	8.0	6.5	5.7	7.2
Endowments	10.8	11.0	11.5	11.8	11.5
Private Gifts	11.1	10.8	10.6	11.5	9.8
Other	4.9	16.6	16.0	13.4	13.6
Non-Governmental Student Aid	5.4	3.7	3.8	4.0	4.1
Total	100.0	100.0	100.0	100.0	100.0
Millions of Dollars	$1,239	$1,487	$1,600	$1,716	$1,873
Expenditures					
General Administration	17.2	16.9	16.8	17.0	17.1
Instruction and Departmental Research	50.1	50.7	51.0	53.7	52.5
Libraries	5.2	5.6	5.5	5.8	5.7
Plant Maintenance and Operation	11.2	11.0	11.3	12.1	11.6
Extension and Public Service	1.8[a]	2.0	3.6	1.2	1.2
Organized Activities of Educational Departments	4.5	2.8	2.0	0	.8
Other	1.0	2.6	1.6	1.6	1.6
Non-Governmental Student Aid	9.0	8.4	8.1	8.6	9.6
Total	100.0	100.0	100.0	100.0	100.0
Millions of Dollars	$1,316	$1,453	$1,579	$1,705	$1.912

See footnotes at end of table.

APPENDIX TABLE 4.11

DISTRIBUTION OF CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION IN INSTITUTIONS OF POST-SECONDARY EDUCATION BY CONTROL AND LEVEL OF INSTITUTION, 1965-66 TO 1969-70

(Per Cent of Total)

Private Other Four-Year Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	62.5	62.0	62.3	64.6	65.9
Government Appropriations	2.6	1.6	2.0	2.0	2.6
Endowments	7.1	7.1	7.0	7.4	7.2
Private Gifts	14.7	14.9	15.1	15.3	14.5
Other	9.3	11.6	10.8	7.8	6.8
Non-Governmental Student Aid	3.8	2.7	2.8	2.9	3.1
Total	100.0	100.0	100.0	100.0	100.0
Millions of Dollars	$1,663	$1,833	$1,992	$2,148	$2,389
Expenditures					
General Administration	25.0	25.0	25.3	25.5	25.7
Instruction and Departmental Research	45.3	45.1	44.4	44.9	45.2
Libraries	4.8	5.0	5.0	5.1	5.1
Plant Maintenance and Operation	12.5	12.2	12.1	12.5	12.4
Extension and Public Service	1.4[a]	2.0	2.7	1.4	.9
Organized Activities of Educational Departments	2.1	1.5	.7	.7	.4
Other	1.8	2.1	2.8	2.8	2.9
Non-Governmental Student Aid	7.3	7.1	7.0	7.2	7.5
Total	100.0	100.0	100.0	100.0	100.0
Millions of Dollars	$1,535	$1,711	$1,898	$2,113	$2,401

APPENDIX TABLE 4.12

DISTRIBUTION OF CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION IN INSTITUTIONS OF POST-SECONDARY EDUCATION BY CONTROL AND LEVEL OF INSTITUTION, 1965-66 TO 1969-70

(Per Cent of Total)

Private Two-Year Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	69.9	68.4	69.2	69.1	69.2
Government Appropriations	1.5	1.9	3.0	2.2	3.6
Endowments	2.3	1.9	1.8	2.2	2.4
Private Gifts	14.3	14.8	14.2	14.9	16.0
Other	10.5	11.6	10.7	10.5	7.7
Non-Governmental Student Aid	1.5	1.3	1.2	1.1	1.2
Total	100.0	100.0	100.0	100.0	100.0
Millions of Dollars	$133	$155	$169	$181	$169
Expenditures					
General Administration	30.4	32.4	33.6	32.0	30.7
Instruction and Departmental Research	44.3	41.9	40.3	42.0	42.2
Libraries	4.3	4.4	4.7	4.1	4.2
Plant Maintenance and Operation	14.8	14.7	14.8	16.0	15.7
Extension and Public Service	.9[a]	.7	1.3	.6	.6
Organized Activities of Educational Departments	b	.7	.7	.6	1.8
Other	2.6	2.2	2.0	1.8	1.8
Non-Governmental Student Aid	2.6	2.9	2.7	3.0	3.0
Total	100.0	100.0	100.0	100.0	100.0
Millions of Dollars	$115	$136	$149	$169	$166

See footnotes at end of table.

APPENDIX TABLE 4.13

DISTRIBUTION OF CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION IN INSTITUTIONS OF POST-SECONDARY EDUCATION BY CONTROL AND LEVEL OF INSTITUTION, 1965-66 TO 1969-70

(Per Cent of Total)

Footnotes

a Includes all public service projects.

b Less than 0.5 per cent.

Source: See Table 3.13.

APPENDIX TABLE 5.1

CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION PER FULL-TIME EQUIVALENT STUDENT IN POST-SECONDARY INSTITUTIONS, 1965-66 TO 1969-70

(Current Dollars)

All Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	$ 573	$ 589	$ 619	$ 643	$ 699
Government Appropriations	763	791	913	964	1,090
Endowments	60	65	66	69	70
Private Gifts	101	104	101	102	97
Other	157	222	210	142	135
Non-Governmental Student Aid	41	32	32	33	36
Total	$1,695	$1,803	$1,941	$1,953	$2,128
Expenditures					
General Administration	$ 270	$ 287	$ 319	$ 338	$ 367
Instruction and Departmental Research	809	866	943	1,003	1,091
Libraries	75	83	90	96	103
Plant Maintenance and Operation	182	192	206	226	244
Extension and Public Service	95	96	110	79	84
Organized Activities of Educational Departments	65	54	44	19	26
Other	33	44	44	47	51
Non-Governmental Student Aid	66	69	71	74	87
Total	$1,594	$1,690	$1,827	$1,883	$2,053

APPENDIX TABLE 5.2

CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION PER FULL-TIME EQUIVALENT STUDENT IN POST-SECONDARY INSTITUTIONS, 1965-66 TO 1969-70

(Current Dollars)

All Universities

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	$ 642	$ 661	$ 729	$ 755	$ 822
Government Appropriations	1,095	1,090	1,234	1,279	1,397
Endowments	83	95	103	108	109
Private Gifts	105	109	104	106	95
Other	229	352	362	231	227
Non-Governmental Student Aid	62	49	48	51	55
Total	$2,215	$2,355	$2,580	$2,531	$2,705
Expenditures					
General Administration	$ 295	$ 310	$ 344	$ 346	$ 375
Instruction and Departmental Research	1,071	1,132	1,263	1,313	1,394
Libraries	98	107	122	127	135
Plant Maintenance and Operation	225	236	263	284	302
Extension and Public Service	205	199	231	167	179
Organized Activities of Educational Departments	120	99	84	31	40
Other	43	67	61	62	67
Non-Governmental Student Aid	95	102	107	113	138
Total	$2,152	$2,251	$2,475	$2,443	$2,631

APPENDIX TABLE 5.3

CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION PER FULL-TIME EQUIVALENT STUDENT IN POST-SECONDARY INSTITUTIONS, 1965-66 TO 1969-70

(Current Dollars)

All Other Four-Year Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	$ 644	$ 666	$ 681	$ 729	$ 801
Government Appropriations	506	556	660	706	826
Endowments	60	61	61	66	68
Private Gifts	126	132	133	136	137
Other	125	172	147	107	98
Non-Governmental Student Aid	37	28	28	30	34
Total	$1,498	$1,616	$1,711	$1,774	$1,964
Expenditures					
General Administration	$ 291	$ 316	$ 349	$ 380	$ 410
Instruction and Departmental Research	692	757	808	877	982
Libraries	69	77	83	92	100
Plant Maintenance and Operation	174	186	193	217	238
Extension and Public Service	20	31	39	26	25
Organized Activities of Educational Departments	38	34	25	14	19
Other	25	31	38	41	45
Non-Governmental Student Aid	63	65	66	72	80
Total	$1,372	$1,497	$1,602	$1,718	$1,898

APPENDIX TABLE 5.4

CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION PER FULL-TIME EQUIVALENT STUDENT IN POST-SECONDARY INSTITUTIONS, 1965-66 TO 1969-70

(Current Dollars)

All Two-Year Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	$232	$ 245	$ 258	$ 262	$ 275
Government Appropriations	634	690	829	897	1,045
Endowments	6	4	5	5	5
Private Gifts	25	28	24	24	21
Other	64	54	43	43	40
Non-Governmental Student Aid	6	6	5	5	6
Total	$969	$1,027	$1,163	$1,236	$1,392
Expenditures					
General Administration	$156	$ 169	$ 201	$ 241	$ 263
Instruction and Departmental Research	494	534	597	679	749
Libraries	34	41	44	48	53
Plant Maintenance and Operation	99	110	123	135	150
Extension and Public Service	25	23	22	25	25
Organized Activities of Educational Departments	0	2	5	8	13
Other	26	22	26	31	36
Non-Governmental Student Aid	6	8	9	7	8
Total	$840	$ 909	$1,026	$1,175	$1,298

APPENDIX TABLE 5.5

CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION PER FULL-TIME EQUIVALENT STUDENT IN POST-SECONDARY INSTITUTIONS, 1965-66 TO 1969-70

(Current Dollars)

All Public Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	$ 280	$ 294	$ 321	$ 331	$ 379
Government Appropriations	1,086	1,136	1,291	1,324	1,462
Endowments	8	9	10	12	12
Private Gifts	22	21	16	13	13
Other	163	191	176	95	93
Non-Governmental Student Aid	19	16	15	15	16
Total	$1,578	$1,667	$1,828	$1,789	$1,975
Expenditures					
General Administration	$ 199	$ 218	$ 254	$ 267	$ 290
Instruction and Departmental Research	768	830	919	955	1,038
Libraries	65	72	82	85	91
Plant Maintenance and Operation	159	172	187	200	219
Extension and Public Service	128	123	131	100	106
Organized Activities of Educational Departments	68	60	51	24	30
Other	36	42	43	46	49
Non-Governmental Student Aid	25	31	33	33	40
Total	$1,447	$1,550	$1,700	$1,710	$1,861

APPENDIX TABLE 5.6

CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION PER FULL-TIME EQUIVALENT STUDENT IN POST-SECONDARY INSTITUTIONS, 1965-66 TO 1969-70

(Current Dollars)

Public Universities

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	$ 382	$ 396	$ 456	$ 463	$ 526
Government Appropriations	1,386	1,409	1,603	1,628	1,738
Endowments	15	19	20	25	27
Private Gifts	43	40	31	27	25
Other	271	312	325	169	159
Non-Governmental Student Aid	35	29	26	28	29
Total	$2,131	$2,205	$2,462	$2,339	$2,503
Expenditures					
General Administration	$ 238	$ 256	$ 295	$ 288	$ 312
Instruction and Departmental Research	985	1,046	1,192	1,199	1,269
Libraries	84	91	109	110	116
Plant Maintenance and Operation	200	213	240	255	273
Extension and Public Service	263[a]	252	277	207	220
Organized Activities of Educational Departments	121	106	94	41	44
Other	50	66	67	65	71
Non-Governmental Student Aid	44	57	63	64	80
Total	$1,986	$2,087	$2,336	$2,229	$2,385

See footnotes at end of table.

APPENDIX TABLE 5.7

CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION PER FULL-TIME EQUIVALENT STUDENT IN POST-SECONDARY INSTITUTIONS, 1965-66 TO 1969-70

(Current Dollars)

Public Other Four-Year Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	$ 242	$ 263	$ 270	$ 288	$ 336
Government Appropriations	929	1,026	1,168	1,202	1,373
Endowments	2	2	2	3	3
Private Gifts	9	10	6	4	7
Other	92	139	99	60	60
Non-Governmental Student Aid	10	9	8	9	9
Total	$1,283	$1,448	$1,553	$1,566	$1,789
Expenditures					
General Administration	$ 193	$ 223	$ 261	$ 281	$ 296
Instruction and Departmental Research	663	754	810	859	967
Libraries	62	72	78	85	91
Plant Maintenance and Operation	150	169	173	191	212
Extension and Public Service	18[a]	27	31	24	28
Organized Activities of Educational Departments	43	41	33	13	26
Other	23	26	27	29	31
Non-Governmental Student Aid	13	16	16	17	18
Total	$1,165	$1,328	$1,429	$1,500	$1,668

See footnotes at end of table.

APPENDIX TABLE 5.8

CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION PER FULL-TIME EQUIVALENT STUDENT IN POST-SECONDARY INSTITUTIONS, 1965-66 TO 1969-70

(Current Dollars)

Public Two-Year Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	$136	$147	$ 165	$ 178	$ 206
Government Appropriations	732	789	934	998	1,146
Endowments	1	1	2	4	3
Private Gifts	1	3	1	2	1
Other	51	41	34	29	35
Non-Governmental Student Aid	3	4	3	2	5
Total	$924	$985	$1,139	$1,212	$1,395
Expenditures					
General Administration	$130	$138	$ 174	$ 219	$ 248
Instruction and Departmental Research	499	541	611	693	767
Libraries	32	39	42	47	53
Plant Maintenance and Operation	90	102	115	126	144
Extension and Public Service	28[a]	24	23	27	27
Organized Activities of Educational Departments	1	1	3	9	12
Other	26	22	26	33	37
Non-Governmental Student Aid	3	4	5	4	5
Total	$809	$871	$1,000	$1,158	$1,291

See footnotes at end of table.

APPENDIX TABLE 5.9

CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION PER FULL-TIME EQUIVALENT STUDENT IN POST-SECONDARY INSTITUTIONS, 1965-66 TO 1969-70

(Current Dollars)

All Private Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	$1,148	$1,189	$1,270	$1,408	$1,537
Government Appropriations	131	90	86	84	115
Endowments	162	178	191	211	222
Private Gifts	255	274	288	320	319
Other	146	286	284	241	247
Non-Governmental Student Aid	84	64	69	78	87
Total	$1,926	$2,080	$2,187	$2,342	$2,526
Expenditures					
General Administration	$ 409	$ 429	$ 463	$ 511	$ 566
Instruction and Departmental Research	891	937	994	1,121	1,230
Libraries	93	103	109	123	136
Plant Maintenance and Operation	226	232	250	288	309
Extension and Public Service	29	40	64	30	26
Organized Activities of Educational Departments	59	41	27	9	15
Other	27	46	47	52	58
Non-Governmental Student Aid	148	149	154	177	210
Total	$1,882	$1,977	$2,108	$2,310	$2,551

APPENDIX TABLE 5.10

CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION PER FULL-TIME EQUIVALENT STUDENT IN POST-SECONDARY INSTITUTIONS, 1965-66 TO 1969-70

(Current Dollars)

Private Universities

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	$1,339	$1,381	$1,500	$1,680	$1,821
Government Appropriations	316	221	189	179	244
Endowments	264	303	335	371	389
Private Gifts	272	297	309	360	333
Other	120	459	465	420	461
Non-Governmental Student Aid	132	102	111	126	139
Total	$2,444	$2,764	$2,909	$3,137	$3,387
Expenditures					
General Administration	$ 448	$ 457	$ 484	$ 530	$ 590
Instruction and Departmental Research	1,300	1,368	1,465	1,673	1,816
Libraries	136	151	158	181	197
Plant Maintenance and Operation	290	297	325	377	400
Extension and Public Service	47[a]	54	104	38	42
Organized Activities of Educational Departments	116	76	56	0	27
Other	26	71	45	49	54
Non-Governmental Student Aid	233	227	233	269	333
Total	$2,596	$2,701	$2,871	$3,117	$3,458

See footnotes at end of table.

APPENDIX TABLE 5.11

CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION PER FULL-TIME EQUIVALENT STUDENT IN POST-SECONDARY INSTITUTIONS, 1965-66 TO 1969-70

(Current Dollars)

Private Other Four-Year Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	$1,082	$1,120	$1,186	$1,318	$1,456
Government Appropriations	45	29	37	42	56
Endowments	123	128	134	150	158
Private Gifts	255	270	287	312	321
Other	160	210	205	160	151
Non-Governmental Student Aid	67	49	53	60	68
Total	$1,732	$1,806	$1,903	$2,042	$2,210
Expenditures					
General Administration	$ 399	$ 421	$ 458	$ 511	$ 571
Instruction and Departmental Research	724	761	805	901	1,004
Libraries	76	84	90	102	113
Plant Maintenance and Operation	200	205	219	251	275
Extension and Public Service	22[a]	34	50	28	19
Organized Activities of Educational Departments	33	26	13	13	8
Other	28	35	51	57	64
Non-Governmental Student Aid	117	120	127	145	167
Total	$1,599	$1,686	$1,813	$2,009	$2,221

See footnotes at end of table.

APPENDIX TABLE 5.12

CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION PER FULL-TIME EQUIVALENT STUDENT IN POST-SECONDARY INSTITUTIONS, 1965-66 TO 1969-70

(Current Dollars)

Private Two-Year Institutions

	1965-66	1966-67	1967-68	1968-69	1969-70
Revenues					
Tuition and Fees	$ 845	$ 906	$ 951	$ 984	$ 967
Government Appropriations	18	26	41	31	50
Endowments	27	26	24	31	33
Private Gifts	173	197	195	213	223
Other	127	154	146	150	107
Non-Governmental Student Aid	18	17	16	16	17
Total	$1,209	$1,325	$1,374	$1,425	$1,397
Expenditures					
General Administration	$ 318	$ 376	$ 407	$ 425	$ 421
Instruction and Departmental Research	464	487	488	559	579
Libraries	45	51	57	55	58
Plant Maintenance and Operation	155	171	179	213	215
Extension and Public Service	9[a]	9	16	8	8
Organized Activities of Educational Departments	b	9	8	8	25
Other	27	26	24	24	25
Non-Governmental Student Aid	27	34	33	39	41
Total	$1,045	$1,162	$1,211	$1,331	$1,372

See footnotes at end of table.

APPENDIX TABLE 5.13

CURRENT FUNDS REVENUES AND EXPENDITURES FOR INSTRUCTION PER FULL-TIME EQUIVALENT STUDENT IN POST-SECONDARY INSTITUTIONS, 1965-66 TO 1969-70

(Current Dollars)

Footnotes

a Includes all major public service projects.

b Less than .5 dollars.

Columns may not add due to rounding.

Source: Revenues and expenditures for instruction: see Tables 3.1 to 3.13; full-time equivalent students adapted from U. S. Department of Health, Education, and Welfare, Office of Education, Opening Fall Enrollment, Fall 1965 to Fall 1970, and Projections of Educational Statistics to 1980-81, 1971 edition, Washington, D. C., U. S. Government Printing Office, 1972.

APPENDIX TABLE 6.1

TOTAL, FULL-TIME EQUIVALENT (FTE), AND STANDARD UNDERGRADUATE (SUS) STUDENTS, BY CONTROL AND TYPE OF INSTITUTION AND BY LEVEL OF INSTRUCTION 1966-67 AND 1969-70

(Students in Thousands)

1966-67	Pre-Baccalaureate			First Professional			Graduate			All Levels		
	Total	FTE	SUS	Total	FTE	SUS	Total	FTE	SUS	Total	FTE	SUS
All Institutions	5,677	4,579	4,587	103	99	302	659	417	1,264	6,439	5,095	6,153
Universities	1,969	1,637	1,722	76	74	230	437	306	949	2,482	2,017	2,901
Other Four-Year	2,377	2,018	2,089	27	25	72	222	111	315	2,626	2,154	2,476
Two-Year	1,331	924	776	--	--	--	--	--	--	1,331	924	776
Public Institutions	3,941	3,125	3,090	43	42	129	398	256	774	4,382	3,423	3,993
Universities	1,476	1,245	1,295	40	39	121	263	191	592	1,779	1,475	2,008
Other Four-Year	1,273	1,079	1,122	3	3	8	135	65	182	1,411	1,147	1,312
Two-Year	1,192	801	673	--	--	--	--	--	--	1,192	801	673
Private Institutions	1,736	1,454	1,497	60	57	173	261	161	490	2,057	1,672	2,160
Universities	493	392	427	36	35	109	174	115	357	703	542	893
Other Four-Year	1,104	939	967	24	22	64	87	46	133	1,215	1,007	1,164
Two-Year	139	123	103	--	--	--	--	--	--	139	123	103

APPENDIX TABLE 6.2

TOTAL, FULL-TIME EQUIVALENT (FTE), AND STANDARD UNDERGRADUATE (SUS) STUDENTS, BY CONTROL AND TYPE OF INSTITUTION AND BY LEVEL OF INSTRUCTION
1966-67 AND 1969-70

(Students in Thousands)

1969-70	Pre-Baccalaureate			First Professional			Graduate			All Levels		
	Total	FTE	SUS	Total	FTE	SUS	Total	FTE	SUS	Total	FTE	SUS
All Institutions	7,066	5,741	5,700	152	140	424	847	517	1,565	8,065	6,398	7,689
Universities	2,302	1,938	2,035	104	97	300	535	370	1,148	2,941	2,405	3,483
Other Four-Year	2,784	2,398	2,484	48	43	124	312	147	417	3,144	2,588	3,025
Two-Year	1,980	1,405	1,181	--	--	--	--	--	--	1,980	1,405	1,181
Public Institutions	5,314	4,237	4,150	64	60	184	561	341	1,029	5,939	4,638	5,363
Universities	1,830	1,550	1,612	58	54	167	347	243	760	2,235	1,849	2,539
Other Four-Year	1,643	1,403	1,459	6	6	17	214	96	269	1,863	1,505	1,745
Two-Year	1,841	1,284	1,079	--	--	--	--	--	--	1,841	1,284	1,079
Private Institutions	1,752	1,504	1,550	88	80	240	286	176	536	2,126	1,760	2,326
Universities	472	388	423	46	43	133	188	125	388	706	556	944
Other Four-Year	1,141	995	1,025	42	37	107	98	51	148	1,281	1,083	1,280
Two-Year	139	121	102	--	--	--	--	--	--	139	121	102

APPENDIX TABLE 6.3

TOTAL, FULL-TIME EQUIVALENT (FTE), AND STANDARD UNDERGRADUATE (SUS) STUDENTS,
BY CONTROL AND TYPE OF INSTITUTION AND BY LEVEL OF INSTRUCTION
1966-67 AND 1969-70

Source: Total enrollment and enrollment by level adapted from U. S. Department of Health, Education, and Welfare, Office of Education, Opening Fall Enrollment in Higher Education, 1967, and Fall Enrollment in Higher Education, 1970; FTE enrollments adapted from above publication, and U. S. Department of Health, Education, and Welfare, Office of Education, Projections of Educational Statistics to 1980-81, 1971 edition; for calculation of SUS, see text, p. 23f.

APPENDIX TABLE 7.1

TOTAL STUDENTS BY CONTROL AND TYPE OF INSTITUTION AND LEVEL OF INSTRUCTION FOR THREE ENROLLMENT PROJECTIONS FOR FALL 1975, 1980, 1985, AND 1990

(Students in Thousands)

High Enrollment

1975	Pre-Baccalaureate	First Professional	Graduate	Total
All Institutions	9,654	329	1,390	11,373
Universities	3,043	214	760	4,017
Other Four-Year	3,389	115	630	4,134
Two-Year	3,222	--	--	3,222
Public Institutions	8,081	150	1,010	9,241
Universities	2,642	131	525	3,298
Other Four-Year	2,339	19	485	2,843
Two-Year	3,100	--	--	3,100
Private Institutions	1,573	179	380	2,132
Universities	401	83	235	719
Other Four-Year	1,050	96	145	1,291
Two-Year	122	--	--	122
1980				
All Institutions	11,082	365	1,790	13,237
Universities	3,577	237	870	4,684
Other Four Year	3,672	128	920	4,720
Two-Year	3,833	--	--	3,833
Public Institutions	9,549	168	1,380	11,097
Universities	3,186	146	630	3,962
Other Four-Year	2,652	22	750	3,424
Two-Year	3,711	--	--	3,711
Private Institutions	1,533	197	410	2,140
Universities	391	91	240	722
Other Four-Year	1,020	106	170	1,296
Two-Year	122	--	--	122

APPENDIX TABLE 7.2

TOTAL STUDENTS BY CONTROL AND TYPE OF INSTITUTION AND LEVEL OF INSTRUCTION FOR THREE ENROLLMENT PROJECTIONS FOR FALL 1975, 1980, 1985, AND 1990

(Students in Thousands)

High Enrollment

1985	Pre-Baccalaureate	First Professional	Graduate	Total
All Institutions	10,541	349	2,060	12,950
Universities	3,599	228	900	4,727
Other Four-Year	3,344	121	1,160	4,625
Two-Year	3,598	--	--	3,598
Public Institutions	8,997	161	1,655	10,813
Universities	3,191	140	675	4,006
Other Four-Year	2,330	21	980	3,331
Two-Year	3,476	--	--	3,476
Private Institutions	1,544	188	405	2,137
Universities	408	88	225	721
Other Four-Year	1,014	100	180	1,294
Two-Year	122	--	--	122
1990				
All Institutions	10,590	350	2,020	12,960
Universities	3,626	228	800	4,654
Other Four-Year	3,334	122	1,220	4,676
Two-Year	3,630	--	--	3,630
Public Institutions	9,068	161	1,680	10,909
Universities	3,226	140	620	3,986
Other Four-Year	2,334	21	1,060	3,415
Two-Year	3,508	--	--	3,508
Private Institutions	1,522	189	340	2,051
Universities	400	88	180	668
Other Four-Year	1,000	101	160	1,261
Two-Year	122	--	--	122

APPENDIX TABLE 7.3

TOTAL STUDENTS BY CONTROL AND TYPE OF INSTITUTION AND LEVEL OF INSTRUCTION FOR THREE ENROLLMENT PROJECTIONS FOR FALL 1975, 1980, 1985, AND11990

(Students in Thousands)

Median Enrollment

1975	Pre-Baccalaureate	First Professional	Graduate	Total
All Institutions	9,211	279	1,250	10,740
Universities	2,929	175	685	3,789
Other Four-Year	3,297	104	565	3,966
Two-Year	2,985	--	--	2,985
Public Institutions	7,479	128	910	8,517
Universities	2,453	111	475	3,039
Other Four-Year	2,168	17	435	2,620
Two-Year	2,858	--	--	2,858
Private Institutions	1,732	151	340	2,223
Universities	476	64	210	750
Other-Four-Year	1,129	87	130	1,346
Two-Year	127	--	--	127
1980				
All Institutions	9,915	405	1,520	11,840
Universities	3,219	180	740	4,139
Other Four-Year	3,310	225	780	4,315
Two-Year	3,386	--	--	3,386
Public Institutions	8,400	187	1,170	9,757
Universities	2,789	157	535	3,481
Other Four-Year	2,344	30	635	3,009
Two-Year	3,267	--	--	3,267
Private Institutions	1,515	218	350	2,083
Universities	430	68	205	703
Other Four-Year	966	150	145	1,261
Two-Year	119	--	--	119

APPENDIX TABLE 7.4

TOTAL STUDENTS BY CONTROL AND TYPE OF INSTITUTION AND LEVEL OF INSTRUCTION FOR THREE ENROLLMENT PROJECTIONS FOR FALL 1975, 1980, 1985, AND 1990

(Students in Thousands)

Median Enrollment

1985	Pre-Baccalaureate	First Professional	Graduate	Total
All Institutions	9,719	528	1,730	11,977
Universities	3,158	266	760	4,184
Other Four-Year	3,409	262	970	4,641
Two-Year	3,152	--	--	3,152
Public Institutions	8,337	232	1,390	9,959
Universities	2,741	192	570	3,503
Other Four-Year	2,559	40	820	3,419
Two-Year	3,037	--	--	3,037
Private Institutions	1,382	296	340	2,018
Universities	417	74	190	681
Other Four-Year	850	222	150	1,222
Two-Year	115	--	--	115
1990				
All Institutions	9,422	611	1,740	11,773
Universities	3,100	301	680	4,081
Other Four-Year	3,165	310	1,060	4,535
Two-Year	3,157	--	--	3,157
Public Institutions	8,154	287	1,450	9,891
Universities	2,700	227	530	3,457
Other Four-Year	2,415	60	920	3,395
Two-Year	3,039	--	--	3,039
Private Institutions	1,268	324	290	1,882
Universities	400	74	150	624
Other Four-Year	750	250	140	1,140
Two-Year	118	--	--	118

APPENDIX TABLE 7.5

TOTAL STUDENTS BY CONTROL AND TYPE OF INSTITUTION AND LEVEL OF INSTRUCTION FOR THREE ENROLLMENT PROJECTIONS FOR FALL 1975, 1980, 1985, AND 1990

(Students in Thousands)

Low Enrollment

1975	Pre-Baccalaureate	First Professional	Graduate	Total
All Institutions	8,289	249	1,120	9,658
Universities	2,636	156	614	3,406
Other Four-Year	2,967	93	506	3,566
Two-Year	2,686	--	--	2,686
Public Institutions	6,731	114	816	7,661
Universities	2,208	99	426	2,733
Other Four-Year	1,951	15	390	2,356
Two-Year	2,572	--	--	2,572
Private Institutions	1,558	135	304	1,997
Universities	428	57	188	673
Other Four-Year	1,016	78	116	1,210
Two-Year	114	--	--	114
1980				
All Institutions	8,923	363	1,361	10,647
Universities	2,897	202	662	3,761
Other Four-Year	2,979	161	699	3,839
Two-Year	3,047	--	--	3,047
Public Institutions	7,560	168	1,048	8,776
Universities	2,510	141	479	3,130
Other Four-Year	2,110	27	569	2,706
Two-Year	2,940	--	--	2,940
Private Institutions	1,363	195	313	1,871
Universities	387	61	183	631
Other Four-Year	869	134	130	1,133
Two-Year	107	--	--	107

APPENDIX TABLE 7.6

TOTAL STUDENTS BY CONTROL AND TYPE OF INSTITUTION AND LEVEL OF INSTRUCTION FOR THREE ENROLLMENT PROJECTIONS FOR FALL 1975, 1980, 1985, AND 1990

(Students in Thousands)

Low Enrollment

1985	Pre-Baccalaureate	First Professional	Graduate	Total
All Institutions	8,747	349	1,730	10,826
Universities	2,842	228	760	3,830
Other Four-Year	3,068	121	970	4,159
Two-Year	2,837	--	--	2,837
Public Institutions	7,503	161	1,390	9,054
Universities	2,467	140	570	3,177
Other Four-Year	2,303	21	820	3,144
Two-Year	2,733	--	--	2,733
Private Institutions	1,244	188	340	1,772
Universities	375	88	190	653
Other Four-Year	765	100	150	1,015
Two-Year	104	--	--	104
1990				
All Institutions	8,480	350	1,740	10,570
Universities	2,790	228	680	3,698
Other Four-Year	2,849	122	1,060	4,031
Two-Year	2,841	--	--	2,841
Public Institutions	7,339	161	1,450	8,950
Universities	2,430	140	530	3,100
Other Four-Year	2,174	21	920	3,115
Two-Year	2,735	--	--	2,735
Private Institutions	1,141	189	290	1,620
Universities	360	88	150	598
Other Four-Year	675	101	140	916
Two-Year	106	--	--	106

Source: See text.

APPENDIX TABLE 8.1

PROJECTED FULL-TIME EQUIVALENT STUDENTS BY CONTROL AND TYPE OF INSTITUTION AND LEVEL OF INSTRUCTION FOR THREE ENROLLMENT PROJECTIONS FOR FALL 1975, 1980, 1985, AND 1990

(FTE Students in Thousands)

High Enrollment

1975	Pre-Baccalaureate	First Professional	Graduate	Total
All Institutions	7,592	314	895	8,801
Universities	2,617	209	565	3,391
Other Four-Year	2,881	105	330	3,316
Two-Year	2,094	--	--	2,094
Public Institutions	6,275	149	635	7,059
Universities	2,272	130	395	2,797
Other Four-Year	1,988	19	240	2,247
Two-Year	2,015	--	--	2,015
Private Institutions	1,317	165	260	1,742
Universities	345	79	170	594
Other Four-Year	893	86	90	1,069
Two-Year	79	--	--	79
1980				
All Institutions	8,688	348	1,120	10,156
Universities	3,076	231	640	3,947
Other Four-Year	3,121	117	480	3,718
Two-Year	2,491	--	--	2,491
Public Institutions	7,406	167	845	8,418
Universities	2,740	145	470	3,355
Other Four-Year	2,254	22	375	2,651
Two-Year	2,412	--	--	2,412
Private Institutions	1,282	181	275	1,738
Universities	336	86	170	592
Other Four-Year	867	95	105	1,067
Two-Year	79	--	--	79

APPENDIX TABLE 8.2

PROJECTED FULL-TIME EQUIVALENT STUDENTS BY CONTROL AND TYPE OF INSTITUTION AND LEVEL OF INSTRUCTION FOR THREE ENROLLMENT PROJECTIONS FOR FALL 1975, 1980, 1985, AND 1990

(FTE Students in Thousands)

High Enrollment

1985	Pre-Baccalaureate	First Professional	Graduate	Total
All Institutions	8,276	334	1,265	9,875
Universities	3,095	223	665	3,983
Other Four-Year	2,843	111	600	3,554
Two-Year	2,338	--	--	2,338
Public Institutions	6,984	160	995	8,139
Universities	2,744	139	505	3,388
Other Four-Year	1,981	21	490	2,492
Two-Year	2,259	--	--	2,259
Private Institutions	1,292	174	270	1,736
Universities	351	84	160	595
Other Four-Year	862	90	110	1,062
Two-Year	79	--	--	79
1990				
All Institutions	8,320	335	1,225	9,880
Universities	3,127	223	595	3,945
Other Four-Year	2,834	112	630	3,576
Two-Year	2,359	--	--	2,359
Public Institutions	7,047	160	995	8,202
Universities	2,783	139	465	3,387
Other Four-Year	1,984	21	530	2,535
Two-Year	2,280	--	--	2,280
Private Institutions	1,273	175	230	1,678
Universities	344	84	130	558
Other Four-Year	850	91	100	1,041
Two-Year	79	--	--	79

APPENDIX TABLE 8.3

PROJECTED FULL-TIME EQUIVALENT STUDENTS BY CONTROL AND TYPE OF INSTITUTION AND LEVEL OF INSTRUCTION FOR THREE ENROLLMENT PROJECTIONS FOR FALL 1975, 1980, 1985, AND 1990

(FTE Students in Thousands)

Median Enrollment

1975	Pre-Baccalaureate	First Professional	Graduate	Total
All Institutions	7,263	266	805	8,334
Universities	2,519	171	505	3,195
Other Four-Year	2,803	95	300	3,198
Two-Year	1,941	--	--	1,941
Public Institutions	5,811	127	575	6,513
Universities	2,110	110	355	2,575
Other Four-Year	1,843	17	220	2,080
Two-Year	1,858	--	--	1,858
Private Institutions	1,452	139	230	1,821
Universities	409	61	150	620
Other Four-Year	960	78	80	1,118
Two-Year	83	--	--	83
1980				
All Institutions	7,783	385	950	9,118
Universities	2,769	220	540	3,529
Other Four-Year	2,813	165	410	3,388
Two-Year	2,201	--	--	2,201
Public Institutions	6,515	185	720	7,420
Universities	2,399	155	400	2,954
Other Four-Year	1,992	30	320	2,342
Two-Year	2,124	--	--	2,124
Private Institutions	1,268	200	230	1,698
Universities	370	65	140	575
Other Four-Year	821	135	90	1,046
Two-Year	77	--	--	77

APPENDIX TABLE 8.4

PROJECTED FULL-TIME EQUIVALENT STUDENTS BY CONTROL AND TYPE OF INSTITUTION AND LEVEL OF INSTRUCTION FOR THREE ENROLLMENT PROJECTIONS FOR FALL 1975, 1980, 1985, AND 1990

(FTE Students in Thousands)

Median Enrollment

1985	Pre-Baccalaureate	First Professional	Graduate	Total
All Institutions	7,663	500	1,070	9,233
Universities	2,716	260	565	3,541
Other Four-Year	2,898	240	505	3,643
Two-Year	2,049	--	--	2,049
Public Institutions	6,506	230	840	7,576
Universities	2,357	190	430	2,977
Other Four-Year	2,175	40	410	2,625
Two-Year	1,975	--	--	1,974
Private Institutions	1,157	270	230	1,657
Universities	359	70	135	564
Other Four-Year	723	200	95	1,018
Two-Year	75	--	--	75
1990				
All Institutions	7,409	580	1,055	9,044
Universities	2,666	295	510	3,471
Other Four-Year	2,691	285	545	3,521
Two-Year	2,052	--	--	2,052
Public Institutions	6,350	285	860	7,495
Universities	2,322	225	400	2,947
Other Four-Year	2,053	60	460	2,573
Two-Year	1,975	--	--	1,975
Private Institutions	1,059	295	195	1,549
Universities	344	70	110	524
Other Four-Year	638	225	85	948
Two-Year	77	--	--	77

APPENDIX TABLE 8.5

PROJECTED FULL-TIME EQUIVALENT STUDENTS BY CONTROL AND TYPE OF INSTITUTION AND LEVEL OF INSTRUCTION FOR THREE ENROLLMENT PROJECTIONS FOR FALL 1975, 1980, 1985, AND 1990

(FTE Students in Thousands)

Low Enrollment

1975	Pre-Baccalaureate	First Professional	Graduate	Total
All Institutions	6,537	239	721	7,497
Universities	2,267	154	452	2,873
Other Four-Year	2,523	85	269	2,877
Two-Year	1,747	--	--	1,747
Public Institutions	5,230	114	515	5,859
Universities	1,899	99	318	2,316
Other Four-Year	1,659	15	197	1,871
Two-Year	1,672	--	--	1,672
Private Institutions	1,307	125	206	1,638
Universities	368	55	134	557
Other Four-Year	864	70	72	1,006
Two-Year	75	--	--	75
1980				
All Institutions	7,005	345	851	8,201
Universities	2,492	197	483	3,172
Other Four-Year	2,532	148	368	3,048
Two-Year	1,981	--	--	1,981
Public Institutions	5,864	166	645	6,675
Universities	2,159	139	358	2,656
Other Four-Year	1,793	27	287	2,107
Two-Year	1,912	--	--	1,912
Private Institutions	1,141	179	206	1,526
Universities	333	58	125	516
Other Four-Year	739	121	81	941
Two-Year	69	--	--	69

APPENDIX TABLE 8.6

PROJECTED FULL-TIME EQUIVALENT STUDENTS BY CONTROL AND TYPE OF INSTITUTION AND LEVEL OF INSTRUCTION FOR THREE ENROLLMENT PROJECTIONS FOR FALL 1975, 1980, 1985, AND 1990

(FTE Students in Thousands)

Low Enrollment

1985	Pre-Baccalaureate	First Professional	Graduate	Total
All Institutions	6,898	334	1,070	8,302
Universities	2,444	223	565	3,232
Other Four-Year	2,609	111	505	3,225
Two-Year	1,845	--	--	1,845
Public Institutions	5,856	160	840	6,856
Universities	2,121	139	430	2,690
Other Four-Year	1,958	21	410	2,389
Two-Year	1,777	--	--	1,777
Private Institutions	1,042	174	230	1,446
Universities	323	84	135	542
Other Four-Year	651	90	95	836
Two-Year	68	--	--	68
1990				
All Institutions	6,669	335	1,055	8,059
Universities	2,400	223	510	3,133
Other Four-Year	2,422	112	545	3,079
Two-Year	1,845	--	--	1,847
Public Institutions	5,716	160	860	6,736
Universities	2,090	139	400	2,629
Other Four-Year	1,848	21	460	2,329
Two-Year	1,778	--	--	1,778
Private Institutions	953	175	195	1,323
Universities	310	84	110	504
Other Four-Year	574	91	85	750
Two-Year	69	--	--	69

Source: See text.

APPENDIX TABLE 9.1

PROJECTED STANDARD UNDERGRADUATE STUDENTS BY CONTROL
AND TYPE OF INSTITUTION AND LEVEL OF INSTRUCTION
FOR THREE ENROLLMENT PROJECTIONS FOR
FALL 1975, 1980, 1985, AND 1990

(SUS Students in Thousands)

High Enrollment

1975	Pre-Baccalaureate	First Professional	Graduate	Total
All Institutions	7,486	950	2,685	11,121
Universities	2,739	648	1,752	5,139
Other Four-Year	2,988	302	933	4,223
Two-Year	1,759	--	--	1,759
Public Institutions	6,124	456	1,897	8,477
Universities	2,363	403	1,225	3,991
Other Four-Year	2,068	53	672	2,793
Two-Year	1,693	--	--	1,693
Private Institutions	1,362	494	788	2,644
Universities	376	245	527	1,148
Other Four-Year	920	249	261	1,430
Two-Year	66	--	--	66
1980				
All Institutions	8,545	1,055	3,339	12,939
Universities	3,216	717	1,984	5,917
Other Four-Year	3,237	338	1,355	4,930
Two-Year	2,092	----	--	2,092
Public Institutions	7,220	512	2,507	10,239
Universities	2,850	450	1,457	4,757
Other Four-Year	2,344	62	1,050	3,456
Two-Year	2,026	--	--	2,026
Private Institutions	1,325	543	832	2,700
Universities	366	267	527	1,160
Other Four-Year	893	276	305	1,474
Two-Year	66	--	--	66

APPENDIX TABLE 9.2

PROJECTED STANDARD UNDERGRADUATE STUDENTS BY CONTROL
AND TYPE OF INSTITUTION AND LEVEL OF INSTRUCTION
FOR THREE ENROLLMENT PROJECTIONS FOR
FALL 1975, 1980, 1985, AND 1990

(SUS Students in Thousands)

High Enrollment

1985	Pre-Baccalaureate	First Professional	Graduate	Total
All Institutions	8,149	1,011	3,753	12,913
Universities	3,237	691	2,062	5,990
Other Four-Year	2,948	320	1,691	4,959
Two-Year	1,964	--	--	1,964
Public Institutions	6,812	490	2,938	10,240
Universities	2,854	431	1,566	4,851
Other Four-Year	2,060	59	1,372	3,491
Two-Year	1,898	--	--	1,898
Private Institutions	1,337	521	815	2,673
Universities	383	260	496	1,139
Other Four-Year	888	261	319	1,468
Two-Year	66	--	--	66
1990				
All Institutions	8,189	1,014	3,619	12,822
Universities	3,269	691	1,845	5,805
Other Four-Year	2,939	323	1,774	5,036
Two-Year	1,981	--	--	1,981
Public Institutions	6,872	490	2,926	10,288
Universities	2,894	431	1,442	4,767
Other Four-Year	2,063	59	1,484	3,606
Two-Year	1,915	--	--	1,915
Private Institutions	1,317	524	693	2,534
Universities	375	260	403	1,038
Other Four-Year	876	264	290	1,430
Two-Year	66	--	--	66

APPENDIX TABLE 9.3

PROJECTED STANDARD UNDERGRADUATE STUDENTS BY CONTROL
AND TYPE OF INSTITUTION AND LEVEL OF INSTRUCTION
FOR THREE ENROLLMENT PROJECTIONS FOR
FALL 1975, 1980, 1985, AND 1990

(SUS Students in Thousands)

Median Enrollment

1975	Pre-Baccalaureate	First Professional	Graduate	Total
All Institutions	7,177	804	2,414	10,395
Universities	2,640	530	1,566	4,736
Other Four-Year	2,906	274	848	4,028
Two-Year	1,631	--	--	1,631
Public Institutions	5,672	389	1,717	7,778
Universities	2,194	341	1,101	3,636
Other Four-Year	1,917	43	616	2,581
Two-Year	1,561	--	--	1,561
Private Institutions	1,505	415	697	2,617
Universities	446	189	465	1,100
Other Four-Year	989	226	232	1,447
Two-Year	70	--	--	70
1980				
All Institutions	7,665	1,159	2,831	11,655
Universities	2,898	683	1,674	5,255
Other Four-Year	2,918	476	1,157	4,551
Two-Year	1,849	--	--	1,849
Public Institutions	6,351	565	2,136	9,052
Universities	2,495	481	1,240	4,216
Other Four-Year	2,072	84	896	3,052
Two-Year	1,784	--	--	1,784
Private Institutions	1,314	594	695	2,603
Universities	403	202	434	1,039
Other Four-Year	846	392	261	1,499
Two-Year	65	--	--	65

APPENDIX TABLE 9.4

PROJECTED STANDARD UNDERGRADUATE STUDENTS BY CONTROL
AND TYPE OF INSTITUTION AND LEVEL OF INSTRUCTION
FOR THREE ENROLLMENT PROJECTIONS FOR
FALL11975, 1980, 1985, AND 1990

(SUS Students in Thousands)

Median Enrollment

1985	Pre-Baccalaureate	First Professional	Graduate	Total
All Institutions	7,570	1,498	3,176	12,244
Universities	2,842	806	1,752	5,400
Other Four-Year	3,007	692	1,424	5,123
Two-Year	1,721	--	--	1,721
Public Institutions	6,371	701	2,481	9,553
Universities	2,451	589	1,333	4,373
Other Four-Year	2,262	112	1,148	3,522
Two-Year	1,658	--	--	1,658
Private Institutions	1,199	797	695	2,691
Universities	391	217	419	1,027
Other Four-Year	745	580	276	1,601
Two-Year	63	--	--	63
1990				
All Institutions	7,306	1,736	3,116	12,158
Universities	2,790	915	1,581	5,286
Other Four-Year	2,792	821	1,535	5,148
Two-Year	1,724	--	--	1,724
Public Institutions	6,209	866	2,528	9,603
Universities	2,415	698	1,240	4,353
Other Four-Year	2,135	168	1,288	3,591
Two-Year	1,659	--	--	1,659
Private Institutions	1,097	870	588	2,555
Universities	375	217	341	933
Other Four-Year	657	653	247	1,557
Two-Year	65	--	--	65

APPENDIX TABLE 9.5

PROJECTED STANDARD UNDERGRADUATE STUDENTS BY CONTROL
AND TYPE OF INSTITUTION AND LEVEL OF INSTRUCTION
FOR THREE ENROLLMENT PROJECTIONS FOR
FALL 1975, 1980, 1985, AND 1990

(SUS Students in Thousands)

Low Enrollment

1975	Pre-Baccalaureate	First Professional	Graduate	Total
All Institutions	6,459	720	2,163	9,342
Universities	2,376	475	1,403	4,254
Other Four-Year	2,615	245	760	3,620
Two-Year	1,468	--	--	1,468
Public Institutions	5,105	349	1,538	6,992
Universities	1,975	306	986	3,267
Other Four-Year	1,725	43	552	2,320
Two-Year	1,405	--	--	1,405
Private Institutions	1,354	371	625	2,350
Universities	401	169	417	987
Other Four-Year	890	202	208	1,300
Two-Year	63	--	--	63
1980				
All Institutions	6,900	1,113	2,718	10,731
Universities	2,609	656	1,607	4,872
Other Four-Year	2,626	457	1,111	4,194
Two-Year	1,665	--	--	1,665
Public Institutions	5,717	543	2,050	8,310
Universities	2,246	462	1,190	3,898
Other Four-Year	1,865	81	860	2,806
Two-Year	1,606	--	--	1,606
Private Institutions	1,183	570	668	2,421
Universities	363	194	417	974
Other Four-Year	761	376	251	1,388
Two-Year	59	--	--	59

APPENDIX TABLE 9.6

PROJECTED STANDARD UNDERGRADUATE STUDENTS BY CONTROL
AND TYPE OF INSTITUTION AND LEVEL OF INSTRUCTION
FOR THREE ENROLLMENT PROJECTIONS FOR
FALL 1975, 1980, 1985, AND 1990

(SUS Students in Thousands)

Low Enrollment

1985	Pre-Baccalaureate	First Professional	Graduate	Total
All Institutions	6,814	1,011	3,176	11,001
Universities	2,558	691	1,752	5,001
Other Four-Year	2,707	320	1,424	4,451
Two-Year	1,549	--	--	1,549
Public Institutions	5,734	490	2,481	8,705
Universities	2,206	431	1,333	3,970
Other Four-Year	2,036	59	1,148	3,243
Two-Year	1,492	--	--	1,492
Private Institutions	1,080	521	695	2,296
Universities	352	260	419	1,031
Other Four-Year	671	261	276	1,208
Two-Year	57	--	--	57
1990				
All Institutions	6,577	1,014	3,116	10,707
Universities	2,512	691	1,581	4,784
Other Four-Year	2,513	323	1,535	4,371
Two-Year	1,552	--	--	1,552
Public Institutions	5,589	490	2,528	8,607
Universities	2,174	431	1,240	3,845
Other Four-Year	1,922	59	1,288	3,269
Two-Year	1,493	--	--	1,493
Private Institutions	988	524	588	2,100
Universities	338	260	341	939
Other Four-Year	591	264	247	1,102
Two-Year	59	--	--	59

Source: See text.

APPENDIX TABLE 10

PER CENT DISTRIBUTION OF FACULTY BY RANK FOR THREE ENROLLMENT PROJECTIONS, ACTUAL 1967-68 AND PROJECTED 1975-76, 1980-81, 1985-86, AND 1990-91

		1975-76 Enrollment			1980-81 Enrollment			1985-86 Enrollment			1990-91 Enrollment		
	1967-68	High	Median	Low	High	Median	Low	High	Median	Low	High	Median	Low
Professor	22.1	24.2	25.4	28.2	31.2	34.6	38.4	47.0	52.8	56.6	59.6	63.5	65.3
Associate Professor	19.4	17.6	18.4	20.5	24.9	26.7	25.9	23.7	24.0	21.5	16.1	12.5	10.7
Assistant Professor	28.7	34.2	33.5	31.4	25.4	22.8	20.7	16.5	12.5	11.3	12.1	11.3	11.2
Instructor	23.5	17.3	16.1	13.3	12.0	9.4	8.5	6.4	4.2	4.1	5.7	6.2	6.2
Other or No Rank	6.4	6.7	6.6	6.6	6.5	6.6	6.6	6.5	6.5	6.5	6.5	6.5	6.5

Source: See text, p. 50.

APPENDIX TABLE 11.1

RATIO OF ADDITIONAL EXPENDITURES PER STUDENT TO EACH DOLLAR OF HIGHER TUITION PAID IN PRIVATE POST-SECONDARY INSTITUTIONS, GIVEN ALTERNATIVE LEVELS OF ENROLLMENT, GOVERNMENT APPROPRIATIONS, AND GNP GROWTH, 1975-76, 1980-81, 1985-86, AND 1990-91

	Low GNP						High GNP					
	Current Proportion of Science Degrees and All Ph.D. Production			Lower Proportion of Science Degrees and All Ph.D. Production			Current Proportion of Science Degrees and All Ph.D. Production			Lower Proportion of Science Degrees and All Ph.D. Production		
1975-76	A[a]	B	C	A	B	C	A	B	C	A	B	C
High Enrollment	.40	.26	.37	.45	.31	.42	.40	.27	.36	.45	.31	.41
Median Enrollment	.41	.29	.38	.45	.34	.42	.41	.29	.37	.45	.34	.41
Low Enrollment	.40	.32	.37	.45	.37	.42	.40	.32	.36	.44	.37	.40
1980-81												
High Enrollment	.50	.28	.41	.54	.32	.46	.51	.28	.40	.55	.33	.45
Median Enrollment	.45	.29	.37	.50	.34	.42	.46	.30	.36	.50	.34	.40
Low Enrollment	.42	.31	.35	.46	.35	.39	.42	.31	.33	.47	.35	.38
1985-86												
High Enrollment	.57	.34	.44	.60	.38	.49	.59	.35	.40	.63	.40	.44
Median Enrollment	.43	.30	.35	.48	.35	.39	.45	.31	.32	.49	.35	.36
Low Enrollment	.54	.40	.42	.57	.44	.46	.56	.41	.38	.59	.45	.42
1990-91												
High Enrollment	.70	.40	.48	.71	.45	.52	.76	.42	.42	.77	.46	.46
Median Enrollment	.48	.34	.35	.52	.39	.39	.51	.36	.31	.55	.41	.36
Low Enrollment	.68	.52	.45	.70	.56	.49	.76	.59	.39	.77	.62	.44

APPENDIX TABLE 11.2

RATIO OF ADDITIONAL EXPENDITURES PER STUDENT TO EACH DOLLAR OF HIGHER TUITION PAID IN PRIVATE POST-SECONDARY INSTITUTIONS, GIVEN ALTERNATIVE LEVELS OF ENROLLMENT, GOVERNMENT APPROPRIATIONS, AND GNP GROWTH, 1975-76, 1980-81, 1985-86, AND 1990-91

[a]See footnote, Table 30, p. 95.

Note: Differences in expenditures are for median cost assumptions; differences in tuition are for tuitions required to balance revenues and expenditures.

APPENDIX TABLE 12.1

PROJECTED TUITION AND FEES PER FULL-TIME EQUIVALENT STUDENT REQUIRED TO BALANCE REVENUES AND EXPENDITURES IN PUBLIC AND PRIVATE POST-SECONDARY INSTITUTIONS, 1975-76, 1980-81, 1985-86, AND 1990-91

(Constant 1967-68 Dollars)

Public Institutions

	Current Proportion of Science Degrees and All Ph.D. Production											
	1975-76			1980-81			1985-86			1990-91		
	A[a]	B	C	A	B	C	A	B	C	A	B	C
High GNP												
High Enrollment												
Median Cost	843	437	758	1,080	512	882	1,197	715	849	1,229	715	718
High Cost	898	492	813	1,233	664	1,035	1,539	1,057	1,189	1,719	1,204	1,208
Median Enrollment												
Median Cost	748	419	655	902	465	677	1,064	638	689	1,104	741	544
High Cost	801	473	710	980	543	755	1,401	975	1,027	1,599	1,236	1,039
Low Enrollment												
Median Cost	673	455	570	862	547	612	1,027	729	613	928	732	306
High Cost	728	510	626	1,021	705	771	1,383	1,086	969	1,431	1,234	808
Low GNP												
High Enrollment												
Low Cost	797	389	734	986	418	830	1,076	565	861	1,092	589	770
Median Cost	877	469	814	1,150	582	994	1,329	817	1,114	1,435	932	1,113
Median Enrollment												
Low Cost	703	370	635	819	374	643	958	544	727	982	611	629
Median Cost	785	452	716	982	537	805	1,205	791	975	1,329	958	976
Low Enrollment												
Low Cost	627	401	550	780	448	583	919	621	665	825	599	433
Median Cost	711	485	635	951	619	754	1,183	885	928	1,179	952	786

APPENDIX TABLE 12.2

PROJECTED TUITION AND FEES PER FULL-TIME EQUIVALENT STUDENT REQUIRED TO BALANCE REVENUES AND EXPENDITURES IN PUBLIC AND PRIVATE POST-SECONDARY INSTITUTIONS, 1975-76, 1980-81, 1985-86, AND 1990-91

(Constant 1967-68 Dollars)

Public Institutions

	Lower Proportion of Science Degrees and all Ph.D. Production											
	1975-76			1980-81			1985-86			1990-91		
	A[a]	B	C	A	B	C	A	B	C	A	B	C
High GNP												
High Enrollment												
Median Cost	743	336	658	966	397	768	1,062	580	713	1,078	564	567
High Cost	795	389	710	1,110	542	912	1,385	903	1,036	1,542	1,027	1,031
Median Enrollment												
Median Cost	648	320	556	790	353	565	930	504	555	951	588	392
High Cost	699	371	607	862	425	637	1,249	823	875	1,420	1,057	861
Low Enrollment												
Median Cost	567	350	465	744	429	494	887	589	473	774	578	152
High Cost	619	402	517	894	578	644	1,224	927	810	1,250	1,053	628
Low GNP												
High Enrollment												
Low Cost	702	293	638	880	312	724	954	443	739	959	456	637
Median Cost	777	368	714	1,036	468	880	1,193	682	979	1,284	781	962
Median Enrollment												
Low Cost	608	274	539	715	270	538	837	423	606	847	477	495
Median Cost	685	352	617	869	424	692	1,071	657	841	1,176	805	823
Low Enrollment												
Low Cost	529	303	452	670	339	474	793	495	538	690	464	298
Median Cost	609	383	532	833	501	636	1,043	744	788	1,025	798	632

APPENDIX TABLE 12.3

PROJECTED TUITION AND FEES PER FULL-TIME EQUIVALENT STUDENT REQUIRED TO BALANCE REVENUES AND EXPENDITURES IN PUBLIC AND PRIVATE POST-SECONDARY INSTITUTIONS, 1975-76, 1980-81, 1985-86, AND 1990-91

(Constant 1967-68 Dollars)

Private Institutions

	Current Proportion of Science Degrees and All Ph.D. Production							
	1975-76		1980-81		1985-86		1990-91	
	High GNP	Low GNP	High GNP	Low GNP	High GNP	Low GNP	High GNP	Low GNP
High Enrollment								
Low Cost	---	1,574	---	1,627	---	1,727	---	1,660
Median Cost	1,651	1,687	1,793	1,882	1,909	2,071	1,856	2,120
High Cost	1,728	---	2,013	---	2,374	---	2,514	---
Median Enrollment								
Low Cost	---	1,527	---	1,560	---	1,808	---	1,797
Median Cost	1,605	1,639	1,713	1,803	1,996	2,165	2,016	2,298
High Cost	1,677	---	1,911	---	2,486	---	2,733	---
Low Enrollment								
Low Cost	---	1,509	---	1,613	---	1,689	---	1,426
Median Cost	1,586	1,623	1,775	1,871	1,869	2,061	1,593	1,920
High Cost	1,659	---	1,990	---	2,375	---	2,295	---

[a]Alternative levels of government appropriations, see footnote, Table 30, p. 95.

Source: See text.

APPENDIX TABLE 13

POSSIBLE AFFORDABLE INCREASE IN ENROLLMENTS IN PRIVATE INSTITUTIONS, UNDER ALTERNATIVE LEVELS OF GNP, ENROLLMENT COST, AND TUITION, 1985-86 AND 1990-91

(FTE Students in Thousands)

	Public Tuition as Constant Per Cent of Disposable Income		Public Tuition Growth at 1965-66 to 1969-70 Rate	
High GNP	1985-86	1990-91	1985-86	1990-91
High Enrollment				
Median Cost	630	1,040	738	1,319
High Cost	92	251	154	382
Median Enrollment				
Median Cost	466	679	554	865
High Cost	2	81	53	174
Low Enrollment				
Median Cost	499	924	578	1,124
High Cost	85	307	133	408
Low GNP				
High Enrollment				
Low Cost	469	967	1,257	2,358
Median Cost	280	323	543	1,004
Median Enrollment				
Low Cost	331	632	961	1,514
Median Cost	16	141	378	610
Low Enrollment				
Low Cost	389	876	931	1,817
Median Cost	72	369	417	863

Source: Number of students derived from the subsidy per FTE paid by the institution and the total surplus reported under each of the cost and revenue assumptions; also see text.

APPENDIX TABLE 14.1

REDUCTIONS IN PUBLIC INSTITUTION DEFICITS FROM INCREASED ENROLLMENTS IN PRIVATE SCHOOLS, UNDER ALTERNATIVE LEVELS OF GNP, ENROLLMENT, COST, TUITION, AND GOVERNMENT APPROPRIATIONS, 1985-86 AND 1990-91

(Per Cent of Public Institution Deficits)

	Public Tuition Growth at 1965-66 to 1969-70 Rate						Public Tuition as Constant Per Cent of Disposable Income					
	Current Proportion of Science Degrees and All Ph.D. Production			Lower Proportion of Science Degrees and All Ph.D. Production			Current Proportion of Science Degrees and All Ph.D. Production			Lower Proportion of Science Degrees and All Ph.D. Production		
High GNP	A[a]	B	C	A	B	C	A	B	C	A	B	C
1985-86												
High Enrollment												
Median Cost	46.1	--	100.0	65.8	--	--	30.7	100.0	97.2	38.5	--	100.0
High Cost	6.1	19.8	12.2	7.2	59.4	19.8	3.2	7.6	5.5	3.7	12.2	7.4
Median Enrollment												
Median Cost	56.0	--	--	100.0	--	--	32.5	--	100.0	46.0	--	--
High Cost	2.7	11.0	8.0	3.4	--	30.4	0.1	0.3	0.2	0.1	0.5	0.4
Low Enrollment												
Median Cost	81.9	--	--	100.0	--	--	45.5	100.0	--	70.5	--	--
Low Cost	8.4	18.5	35.5	10.8	45.7	--	4.5	8.1	11.7	9.5	12.7	25.9

APPENDIX TABLE 14.2

REDUCTIONS IN PUBLIC INSTITUTION DEFICITS FROM INCREASED ENROLLMENTS IN PRIVATE SCHOOLS, UNDER ALTERNATIVE LEVELS OF GNP, ENROLLMENT, COST, TUITION, AND GOVERNMENT APPROPRIATIONS, 1985-86 AND 1990-91

(Per Cent of Public Institution Deficits)

	Public Tuition Growth at 1965-66 to 1969-70 Rate						Public Tuition as Constant Per Cent of Disposable Income					
	Current Proportion of Science Degrees and All Ph.D. Production			Lower Proportion of Science Degrees and All Ph.D. Production			Current Proportion of Science Degrees and All Ph.D. Production			Lower Proportion of Science Degrees and All Ph.D. Production		
High GNP	A[a]	B	C	A	B	C	A	B	C	A	B	C
1990-91												
High Enrollment												
Median Cost	100.0	--	--	100.0	--	--	63.9	--	--	88.5	--	--
High Cost	17.1	70.3	68.9	21.2	--	100.0	9.2	21.2	21.0	10.6	34.8	34.3
Median Enrollment												
Median Cost	100.0	--	--	--	--	--	64.4	--	--	100.0	--	--
High Cost	10.4	28.9	100.0	13.8	100.0	--	3.8	7.0	13.0	4.5	11.0	47.3
Low Enrollment												
Median Cost	--	--	--	100.0	--	--	100.0	--	--	--	--	--
Low Cost	39.0	77.2	--	64.1	100.0	--	20.5	30.1	--	26.7	47.5	--

APPENDIX TABLE 14.3

REDUCTIONS IN PUBLIC INSTITUTION DEFICITS FROM INCREASED ENROLLMENTS IN PRIVATE SCHOOLS, UNDER ALTERNATIVE LEVELS OF GNP, ENROLLMENT, COST, TUITION, AND GOVERNMENT APPROPRIATIONS, 1985-86 AND 1990-91

(Per Cent of Public Institution Deficits)

	Public Tuition Growth at 1965-66 to 1969-70 Rate						Public Tuition as Constant Per Cent of Disposable Income					
	Current Proportion of Science Degrees and All Ph.D. Production			Lower Proportion of Science Degrees and All Ph.D. Production			Current Proportion of Science Degrees and All Ph.D. Production			Lower Proportion of Science Degrees and All Ph.D. Production		
Low GNP	A[a]	B	C	A	B	C	A	B	C	A	B	C
1985-86												
High Enrollment												
Low Cost	96.1	--	100.0	100.0	--	--	22.2	--	40.2	27.5	--	67.1
Median Cost	25.0	--	43.7	31.4	--	73.9	10.0	34.6	14.3	11.5	85.4	18.0
Median Enrollment												
Low Cost	100.0	--	--	100.0	--	--	21.8	--	59.0	29.8	--	100.0
Median Cost	24.1	--	60.6	33.7	--	100.0	0.7	2.4	1.2	0.9	7.4	1.7
Low Enrollment												
Low Cost	100.0	--	--	--	--	--	34.0	100.0	100.0	50.9	--	--
Median Cost	33.4	100.0	100.0	49.6	--	--	4.0	8.4	7.2	4.9	15.3	11.7

APPENDIX TABLE 14.4

REDUCTIONS IN PUBLIC INSTITUTION DEFICITS FROM INCREASED ENROLLMENTS IN PRIVATE SCHOOLS, UNDER ALTERNATIVE LEVELS OF GNP, ENROLLMENT, COST, TUITION, AND GOVERNMENT APPROPRIATIONS, 1985-86 AND 1990-91

(Per Cent of Public Institution Deficits)

	Public Tuition Growth at 1965-66 to 1969-70 Rate						Public Tuition as Constant Per Cent of Disposable Income					
	Current Proportion of Science Degrees and All Ph.D. Production			Lower Proportion of Science Degrees and All Ph.D. Production			Current Proportion of Science Degrees and All Ph.D. Production			Lower Proportion of Science Degrees and All Ph.D. Production		
Low GNP	A[a]	B	C	A	B	C	A	B	C	A	B	C
1990-91												
High Enrollment												
Low Cost	100.0	--	--	--	--	--	57.4	--	100.0	78.1	--	--
Median Cost	58.3	--	100.0	82.3	--	--	12.5	40.0	22.3	14.6	100.0	32.3
Median Enrollment												
Low Cost	--	--	--	--	--	--	56.9	--	--	93.8	--	--
Median Cost	51.5	--	--	87.3	--	--	7.1	17.4	16.2	8.6	37.9	32.5
Low Enrollment												
Low Cost	--	--	--	--	--	--	100.0	--	--	100.0	--	--
Median Cost	100.0	--	--	100.0	--	--	27.4	52.3	100.0	37.2	100.0	--

[a]See footnote, Table 30, p. 95.

Source: See text, p. 110.